2011 MISSOURI TURKEY HUNTER INFORMATION SURVEY REPORT

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EXECUTIVE SUMMARY

A questionnaire entitled *Turkey Hunting in Missouri* was mailed to 10,000 randomly-selected individuals who either obtained a no-cost landowner permit (hereafter, landowners) or purchased a spring turkey hunting permit (hereafter, permit-buyers) to hunt in Missouri during the 2011 spring turkey season. The objectives of the questionnaire were to determine the characteristics, attitudes, and preferences of turkey hunters towards wild turkeys, turkey hunting, and wild turkey management. Similar surveys were conducted after the 1988, 1994, and 2000 spring turkey seasons. Because many of the same questions were used in all 4 surveys, changes in the characteristics, attitudes, and preferences of turkey hunters were assessed.

The composite permit-buyer in 2011 was male and 44 years old, and grew up and currently lives in the country or rural area, or in a small town. This hunter, who was more experienced than hunters in any other survey year, had hunted for 30 years, but had only spring turkey hunted in Missouri for 15 years, in which he harvested 13 turkeys. Along with an increase in experience, Missouri's spring turkey hunters have become increasingly safe. The percentage of permit-buyers indicating concern about being shot by another turkey hunter declined considerably from 67.8% in 1988, to 64.2% in 1994, to 55.8% in 2000, to 34.7% in 2011. This decline, as well as the decline in the number of mistaken-for-game turkey hunting incidents in Missouri can likely be attributed to hunter education efforts, which have resulted in an increasing

percentage of turkey hunters who have received hunter education training. When asked about expenses associated with the 2011 spring turkey season, the average spent by a permit-buyer was \$306.83.

Only 25.6% of spring permit-buyers hunted during the 2010 fall firearms turkey season; 31.5% hunted turkeys during the 2010 fall archery turkey season. Participation in the fall firearms turkey season has declined considerably since 1988, when 59.2% of spring permit-buyers participated in the 1987 fall firearms turkey season. Permit-buyers in 2011 hunted an average of 5 days during the spring season and 39.6% were successful; 38.4% rated their spring turkey season as either excellent or good. Hunter success and satisfaction in 2011 were lower than in any other survey year. Since both success and satisfaction are likely to be impacted greatly by turkey abundance, it is not unexpected that each has declined, considering that turkey numbers have declined since the last turkey hunter information survey was conducted.

The majority of permit-buyers (85.6%) continue to indicate that they do not have much difficulty locating a place to hunt during the spring turkey season; however, 7.8% indicated that they paid someone for the right to spring turkey hunt on their land in 2011. The percentage of hunters leasing land for spring turkey hunting has shown an increasing trend since 1988, when only 2.8% leased land for spring turkey hunting. In 2011, the majority of permit-buyers (84.5%) continue to indicate that they experience very little or no problem with interference from other hunters. Spring turkey hunters also continue to indicate that they receive the greatest enjoyment from seeing turkeys, hearing turkeys gobble, killing an adult gobbler, working a gobbler, and hunting with friends and family. Results from the 2011 survey indicate that Missouri's spring turkey hunters have become more selective with regard to harvest, with just 19.6% of permit-buyers reporting that they shoot the first legal male turkey that comes within shotgun range. In

2000 and 1994, the percentage of permit-buyers that indicated that they shot the first legal male turkey that came within shotgun range was 25.1% and 30.0%, respectively.

In 2011, the majority of permit-buyers (73.3%) indicated that they believed there are enough turkeys in Missouri to allow them ample opportunity to harvest a bird, although 50.8% indicated that there were fewer turkeys in the area where they hunted than 5 years ago. The percentage of permit-buyers indicating that there were enough turkeys in Missouri to allow ample harvest opportunity in 2011 was lower than in 2000 (89.0%), 1994 (85.0%), and 1988 (91.3%). When asked to rate factors that may have contributed to lower turkey numbers in the area in which they hunted, the majority of permit-buyers in 2011 felt that bad weather during nesting (61.2%), bad hatches (58.1%), and predators (51.0%) contributed greatly to lower turkey numbers; just 6.9% of permit-buyers felt that hunting had contributed greatly to lower turkey numbers.

The majority of permit-buyers were supportive of the current spring turkey season framework with respect to season length, bag-limit, and timing. Specifically, 52.7% of permit-buyers felt that the season starting date was about right, and 67.2% indicated that the 21-day regular season was about the right length. In 2000, 73.3% of permit-buyers also felt that the 21-day season was about the right length. In 1994 and 1988, despite a season that was 1 week shorter than in 2000 and 2011, the majority of permit-buyers (71.7% and 74.6%, respectively) also felt that the season was about the right length. The majority of permit-buyers in 2011 were opposed to reducing the spring season length to 2 weeks (67.0%) or reducing the spring bag-limit to 1 bird (69.8%). There was more opposition than support for season length and bag-limit reductions in all regions of the state. Despite opposing reductions in spring season length and bag-limit, more permit-buyers were supportive than opposed of allowing 2 turkeys to be shot on

the same day (48.6% support; 36.1% opposition), allowing 2 turkeys to be shot on successive days any time during the season (64.5% support; 19.8% opposition), and allowing all-day hunting (58.2% support; 29.0% opposition). Support for all-day hunting during the spring turkey season has varied throughout the period in which turkey hunter information surveys have been conducted. Specifically, the majority of permit-buyers in 1988 thought that all-day hunting was a good idea (52.7%); however, more permit-buyers in 1994 and 2000 thought that all-day hunting was a bad idea (49.7% and 47.3%, respectively), rather than a good idea (39.3% and 41.7%, respectively).

The majority of permit-buyers in 2011 were opposed to (56.6%), rather than supportive of (19.7%), closing the fall firearms turkey season. More permit-buyers were opposed than supportive of reducing the fall bag-limit (firearms and archery seasons combined) to 1 bird (33.6% support; 43.2% opposition), reducing the length of the fall firearms season to 2 weeks (35.3% support; 37.4% opposition), and allowing the use of dogs to hunt turkeys during the fall firearms season (6.4% support; 77.1% opposition). In contrast, permit-buyers showed more support (40.3%) than opposition (35.8%) for reducing the bag-limit of the fall firearms season to 1 turkey. Permit-buyers indicating that they hunted during the 2010 fall firearms turkey season, however, were opposed to any fall firearms turkey season regulation restrictions; therefore, a fairly dramatic difference of opinion exists between those that do and do not participate in the fall turkey season.

Results from the 2011 survey indicate that support for more restrictive turkey hunting regulations appears to be impacted substantially by turkey population status, especially at the regional scale. Specifically, in areas where turkey numbers have declined more substantially, survey results indicate the tendency of hunters to favor more restrictive regulations, despite a

belief by the majority of respondents that hunting did not contribute greatly to reduced turkey numbers. These responses reflect the overall conservative nature of Missouri's turkey hunters, especially with respect to fall turkey hunting regulations. As turkey harvest management continues to evolve in Missouri, these are important considerations to incorporate into the decision-making process.

This survey as well as previous turkey hunter information surveys has provided a wealth of information, which has been a considerable benefit to the Conservation Department's turkey harvest management program. As hunter characteristics, attitudes, and opinions are likely to change based on any number of factors, such as the number of turkeys and/or turkey hunters, conducting periodic surveys at regular intervals in the coming years will allow the agency to continue to make informed management decisions.

INTRODUCTION

Missouri's first modern spring turkey hunting season was held in 1960. Less than 1,000 hunters participated in the 3-day season, which was open in 14 counties and resulted in a harvest of less than 100 turkeys. Since this early season, the popularity of spring turkey hunting has increased dramatically. Spring permit sales exceeded 50,000 for the first time in 1980 and 100,000 in 1998. In 2003, over 130,000 spring turkey hunting permits were sold in Missouri; in 2004, over 60,000 turkeys were harvested during the spring turkey season.

Although spring turkey hunting regulations have evolved as the state's turkey population expanded and managers gained a better understanding of wild turkey population dynamics and harvest management, the Missouri Department of Conservation (MDC) has always maintained a relatively conservative approach to turkey harvest management. Missouri's regular spring season is just 21 days in length, with a 2-bird bag-limit of which only 1 turkey may be taken during the

first week of the season. Additionally, only 1 turkey may be taken per day during the second and third weeks of the season. Youth hunters are allowed to harvest 1 turkey during the spring youth turkey season, which was initiated in 2001. MDC's conservative approach to turkey harvest management is designed to provide hunters with a quality hunting experience, which involves minimal interference from other hunters and an abundance of adult gobblers in the harvest.

Because hunter input is an important component of MDC's turkey harvest management program, the Department conducts periodic turkey hunter information surveys. These surveys, which have been conducted following the 1988, 1994, and 2000 spring seasons, are used to determine the characteristics, attitudes, and preferences of turkey hunters towards wild turkeys, turkey hunting, and wild turkey management in Missouri. Information from survey participants provides MDC with valuable information in which to use in the turkey harvest management decision-making process.

Since the last turkey hunter information survey was conducted in 2000, considerable change has occurred with respect to wild turkey abundance and turkey hunter numbers in Missouri. Turkey recruitment has declined substantially during the last decade, and from 2007-10, Missouri's turkey population experienced the 4 poorest consecutive years of production since MDC's wild turkey brood survey was initiated in 1959. As a result, turkey numbers have declined considerably throughout much of the state. Turkey hunter numbers and harvest have also declined in recent years. Specifically, after reaching a peak of 60,744 birds in 2004, Missouri's spring turkey harvest declined to 42,220 in 2011. The number of spring turkey hunters in Missouri declined from 157,766 in 2007 to 138,628 in 2011.

Given the previously-described changes that occurred with respect to the number of turkeys and turkey hunters in Missouri since the last turkey hunter information survey was

conducted, the need for updated turkey hunter input existed. As such, the 2011 turkey hunter information survey was designed to determine the characteristics, attitudes, and preferences of turkey hunters towards wild turkeys, turkey hunting, and wild turkey management. Because many of the same questions were used in all 4 surveys, changes in the characteristics, attitudes, and preferences of turkey hunters were assessed.

METHODS

On 12 July 2011, 10,000 surveys were mailed to randomly-selected individuals who either obtained a no-cost landowner permit (hereafter, landowners) or purchased a spring turkey hunting permit (hereafter, permit-buyers) to hunt in Missouri during the 2011 spring hunting season. Follow-up surveys were mailed on 17 August and 16 September 2011 to individuals who failed to respond to previously-mailed surveys.

Because Missouri did not have a youth turkey season prior to 2001, the 1988, 1994, and 2000 surveys only obtained information pertaining to the regular spring turkey season. To allow for more meaningful comparisons among surveys, participants in the 2011 turkey hunter information survey were asked only to provide information pertaining to the regular spring turkey season.

Although both landowners and permit-buyers were surveyed in 2011, only permit-buyer responses from the 2011 survey were compared with responses from previous surveys. Prior to 2005, landowners were not required to possess a permit to hunt turkeys on their property in Missouri; therefore, previous turkey hunter information surveys were mailed only to permit-buyers. Comparing only permit-buyer responses to the 2011 survey with previous survey data allows for more meaningful comparisons among survey responses.

Landowner and permit-buyer responses to the 2011 survey can be found in Appendix I and II, respectively. Data from the 1988 survey can be found in Vangilder et al. (1989). Data from the 1994 survey can be found in Vangilder and Sheriff (1996), and data from the 2000 survey can be found in Hubbard (2002). In addition to comparisons among permit-buyer data from previous surveys, responses to several questions on the 2011 survey were compared at the regional scale. To maximize sample sizes for regional comparisons, data from all respondents (both landowners and permit-buyers) were used.

RESULTS AND DISCUSSION

Survey mailings produced 340 non-deliverables; 3,905 usable surveys were returned, resulting in a 40.4% adjusted response rate. The response rate to turkey hunter information surveys has declined considerably, from 75.2% in 1988, to 66.9% in 1994, to 53.8% in 2000, to 40.4% in 2011. Responses to the 2011 survey were comprised of 28.9% landowners and 71.1% permit-buyers. These percentages were similar to permit distribution totals for the 2011 spring turkey season, with 42,163 (29.4%) landowner permits being issued, and 101,127 (70.6%) permits being sold. Missouri residents and nonresidents accounted for 94.2% and 5.8% of survey responses, respectively. These percentages were also similar to permit distribution totals for 2011, with 137,117 (95.7%) resident permits being sold or issued, and 6,173 (4.3%) nonresident permits being sold.

The Missouri Spring Turkey Hunter

In 2011, the composite landowner was male (88.8%) and 50 years old (mean \pm SE; 50.4 \pm 0.6). The composite permit-buyer was male (95.5%) and 44 years old (43.9 \pm 0.3), which is 2, 3, and 5 years older than the composite permit-buyer was in 2000, 1994, and 1988, respectively. In 2011, the majority of landowners and permit-buyers grew up (80.5% and 76.6%,

respectively), and currently live (84.0% and 72.5%, respectively), in the country or a rural area, or in a small town. Similarly, the majority of permit-buyers in 2000 (79.4%), 1994 (83.2%), and 1988 (84.6%) reported having had a rural or small town background.

In 2011, although having hunted for 34 years (34.3 \pm 0.6), the composite landowner had only hunted turkeys during the spring season in Missouri for 15 years (14.9 \pm 0.4). During these 15 spring turkey seasons, the composite landowner reported harvesting 12 turkeys (11.9 \pm 0.5). The composite permit-buyer in 2011 had hunted for 30 years (30.1 \pm 0.3), and reported shooting 13 turkeys (13.0 \pm 0.3) during 15 years (14.9 \pm 0.2) of spring turkey hunting in Missouri (Figure 1). The composite permit-buyer in 2011 had hunted 2, 3, and 4 years longer than the composite permit-buyer in 2000, 1994, and 1988, respectively. Permit-buyers in previous surveys were also less experienced at turkey hunting than were 2011 permit-buyers. Survey respondents in 2000, 1994, and 1988 reported having hunted during Missouri's spring turkey seasons for 10, 9, and 7 years, in which they harvested 7, 6, and 4 turkeys, respectively (Figure 1).

Turkey Hunter Participation and Success

Slightly greater than 80% (80.5%) of landowners indicated that they hunted during the 2011 spring turkey season. The majority (95.3%) of permit-buyers participated in the 2011 spring turkey season; the participation rate for respondents (landowners and permit-buyers) was 91.1%. The success rate (percentage of hunters harvesting at least 1 turkey) for respondents during the 2011 spring turkey season was 36.7%; 9.4% of respondents reported harvesting 2 turkeys. Regionally, the spring success rate for respondents was highest in the Northwest (42.5%) and Mississippi Lowlands (42.3%; note small sample size (n = 26)), and lowest in the Ozarks East (30.0%) and Lindley Breaks (30.6%) (Figures 2 and 3).

Of the landowners and permit-buyers that hunted during the 2011 spring turkey season, 28.2% and 39.6%, respectively, reported harvesting at least 1 turkey; 6.3% and 10.5%, respectively, reported harvesting 2 turkeys. The percentage of permit-buyers that harvested at least 1 turkey in 2000 was 44.6%; 46.1% of permit-buyers were successful in 1994, and 41.5% in 1988 (Figure 4). Differences in hunter success rates between the 2011 survey and other turkey hunter information surveys, however, may be due in part to survey design. Specifically, in 2011, only respondents that indicated that they had hunted during the spring turkey season were directed to answer a question regarding the number of turkeys that they harvested (see Appendix II). In 1988, 1994, and 2000, all respondents, regardless of whether or not they hunted during the spring turkey season, were directed to answer a question regarding the number of turkeys that they harvested. Since it is possible that respondents who did not hunt, indicated that they did not harvest a turkey, success rates for these years may have actually been higher than reported (see Vangilder et al. (1989), Vangilder and Sheriff (1996), Hubbard (2002)).

Unlike spring turkey hunting, in which the permit sales trend increased from when the first modern season was held in 1960 until the mid-2000s, the popularity of fall firearms turkey hunting in Missouri has been declining since the late 1980s. Fall firearms turkey permit sales in Missouri peaked in 1987 at 52,922; by 2011, fall firearms turkey permit sales had declined to 15,020. In 2011, 29.5% of respondents indicated that they hunted during the 2010 fall firearms turkey season; 39.1% and 25.6% of landowners and permit-buyers, respectively, reported hunting during the 2010 fall firearms turkey season. The percentage of permit-buyers that participated in the fall firearms turkey season was substantially higher in 1999 (43.1%), 1993 (47.8%), and 1987 (59.2%).

The decline in fall firearms turkey season participation mirrors the declining fall firearms turkey permit sales trend. This decline in participation may be due in part to hunters choosing to pursue other species during the fall. Fall provides considerably more opportunities for Missouri's hunters than does spring. In addition to small game seasons being open during the fall firearms turkey season, the archery deer and turkey season is also running concurrently. Since the late 1980s, archery deer and turkey permit sales have increased considerably in Missouri. It is possible that many of the hunters that previously fall turkey hunted are choosing to forgo the opportunity in order to participate in the archery season. Declining turkey production could also be partially responsible for declining fall firearms turkey permit sales. Lower production results in fewer turkey sightings prior to the fall season, which is likely to have a negative impact on fall turkey season participation rates. Lower production also results in fewer juvenile turkeys available for harvest during the fall, which is likely to negatively affect fall turkey hunter success rates.

The 2010 fall firearms turkey season success rate for 2011 survey respondents was 26.5%; 7.4% of respondents reported harvesting 2 turkeys. Regionally, the fall firearms turkey season success rate for respondents was highest in the Mississippi Lowlands (60.0%; note sample size (n = 5)) and Lindley Breaks (32.9%) and lowest in the Northeast (23.0%) and Ozarks East (23.7%) (Figures 2 and 3). The fall firearms season success rate for landowners and permitbuyers was 21.3% and 29.8%, respectively; 5.9% and 8.3%, respectively, reported harvesting 2 turkeys. The percentage of permit-buyers that harvested at least 1 turkey during the 1999 fall firearms season was 21.7%; 49.0% of permit-buyers were successful in 1993 and 51.8% in 1987 (Figure 4). Differences in hunter success rates between the 2011 survey and other turkey hunter information surveys, however, may be due in part to survey design. Specifically, in 2011, only

respondents that indicated that they had hunted during the fall firearms turkey season were directed to answer a question regarding the number of turkeys that they harvested (see Appendix II). In 1988, 1994, and 2000, all respondents, regardless of whether or not they hunted during the fall firearms turkey season, were directed to answer a question regarding the number of turkeys that they harvested. Since it is possible that respondents who did not hunt, indicated that they did not harvest a turkey, success rates for these years may have actually been higher than reported (see Vangilder et al. (1989), Vangilder and Sheriff (1996), Hubbard (2002)).

Of all respondents to the 2011 survey, 28.8% indicated that they hunted turkeys during the 2010 archery turkey season; 22.3% and 31.5% of landowners and permit-buyers, respectively, reported hunting turkeys during this season. The percentage of permit-buyers indicating that they hunted turkeys during the archery season was greater in 1999 (39.3%), 1993 (41.0%), and 1987 (36.3%).

The 2010 fall archery turkey season success rate for respondents was 7.6%; 1.7% of respondents reported harvesting 2 turkeys. Regionally, the fall archery turkey season success rate for respondents was highest in the Ozarks West (11.0%) and Ozark Border (9.8%), and lowest in the Northwest (4.7%) and Union Breaks (5.9%) (Figures 2 and 3). Success rates for landowners and permit-buyers were 5.1% and 8.2%, respectively; 1.7% and 1.6%, respectively, reported harvesting 2 turkeys. The percentage of permit-buyers that harvested at least 1 turkey during the 1999 fall archery turkey season was 4.5%; 7.9% of permit-buyers were successful in 1993, and 4.9% in 1987 (Figure 4). Differences in hunter success rates between the 2011 survey and other turkey hunter information surveys, however, may be due in part to survey design. Specifically, in 2011, only respondents that indicated that they had hunted during the fall archery turkey season were directed to answer a question regarding the number of turkeys that they harvested (see

Appendix II). In 1988, 1994, and 2000, all respondents, regardless of whether or not they hunted during the fall archery season, were directed to answer a question regarding the number of turkeys that they harvested. Since it is possible that respondents who did not hunt, indicated that they did not harvest a turkey, success rates for these years may have actually been higher than reported (see Vangilder et al. (1989), Vangilder and Sheriff (1996), Hubbard 2002)).

2011 Spring Turkey Hunting Experience

The composite landowner and permit-buyer both indicated that they hunted for 5 days $(4.7 \pm 0.1 \text{ and } 5.4 \pm 0.1, \text{ respectively})$ during the 2011 spring turkey season. Permit-buyers in 1994 and 1988 also hunted an average of 5 days during the spring season, despite having a season that was 7 days shorter than in 2011. Permit-buyers reported hunting an average of 6 days during the 2000 spring season.

As would be expected, the majority of landowners (95.8%) indicated that it was either not too difficult or no problem to locate a place to hunt during the 2011 spring turkey season. The majority (85.6%) of permit-buyers also indicated that it was either not too difficult or no problem to locate a place to hunt during the 2011 spring turkey season. Previous turkey hunter information surveys have also indicated that most hunters do not have much difficulty finding a place to spring turkey hunt in Missouri. Specifically, in 2000, 84.0% of permit-buyers reported that it was either not too difficult or no problem to locate a place to hunt; the majority of permit-buyers in 1994 (85.6%) and 1988 (87.9%) also reported that it was either not too difficult or no problem to locate a place to spring turkey hunt.

In 2011, 1.1% of landowners paid someone for the right to hunt turkeys on their land during the spring turkey season. Nearly 8% (7.8%) of permit-buyers indicated that they paid someone for the right to hunt turkeys on their land during the 2011 spring turkey season. Leasing

land for turkey hunting has become increasingly popular since the first turkey hunter information survey was conducted. The percentage of permit-buyers who reported leasing land for spring turkey hunting has increased from 2.8% (1988), to 4.4% (1994), to 6.5% (2000), to 7.8% (2011). If the amount of land leased for hunting increases in the coming years, this could result in additional hunting pressure being placed on public lands; therefore, the need to actively manage these areas to provide quality hunting opportunities becomes increasing important on those areas for which this is an objective.

On average, landowners traveled just over 35 miles (35.4 \pm 2.1, median: 7 miles) to the area they hunted most during the 2011 spring turkey season. Permit-buyers travelled more than twice as far as landowners (73.8 \pm 3.3, median: 20 miles), but similar to the average distances travelled by permit-buyers in 2000 (75.1 miles, median: 20 miles), 1994 (77.4 miles, median: 20 miles), and 1988 (69.6 miles, median: 17.5 miles). In 2011, resident permit-buyers traveled an average distance of 42 miles (41.9 \pm 1.2, median: 20.0 miles) to the area they hunted most, whereas nonresident permit-buyers traveled an average distance of 416 miles (416.4 \pm 27.1, median: 336.0 miles).

When respondents were asked to rate their 2011 spring turkey season, 37.0% chose either excellent or good, 30.1% chose fair, and 31.5% chose poor. Satisfaction by all respondents was highest in the Mississippi Lowlands (46.1%; note small sample size (n = 26)) and Lindley Breaks (40.8%), and lowest in the Ozarks East (28.4%) and Northeast (32.2%) (Table 1). When landowners rated their 2011 spring turkey season, 32.9% chose excellent or good, 30.1% chose fair, and 34.0% chose poor. The percentage of permit-buyers that rated their 2011 spring season as excellent or good, fair, and poor was 38.4%, 30.0%, and 30.6%, respectively (Table 2). The percentage of permit-buyers rating their season as either excellent or good in 2011 (38.4%) was

considerably lower than in 2000 (54.6%), 1994 (51.4%), and 1988 (45.8%). Similarly, the percentage of permit-buyers rating their season as poor in 2011 (30.6%) was greater than those rating their season as poor in 2000 (15.8%), 1994 (18.0%), or 1988 (23.0%) (Table 2). Turkey numbers are likely to have a substantial impact on hunter satisfaction. It is therefore likely that poor production and lower turkey numbers in recent years have negatively impacted hunter satisfaction.

Of the landowners that reported encountering another hunter (other than those in their hunting party) during the 2011 spring turkey season, the average number of hunters encountered was 2 (2.2 ± 0.1) . For 2011 permit-buyers, the average number of hunters encountered was 4 (3.7 ± 0.1) . The difference in the number of hunters encountered between landowners and permit-buyers is most likely the result of differences in the type of land that each group hunts. Specifically, the majority of landowners (93.9%) reported hunting exclusively on private land during the 2011 spring turkey season; 5.3% reported hunting on both private and public land, and < 1% reported hunting exclusively on public land. A smaller percentage of permit-buyers (73.1%) reported hunting exclusively on private land during the 2011 spring turkey season; 16.6% reported hunting on both private and public land, and 10.3% reported hunting exclusively on public land.

In 2000, over 66% of permit-buyers reported hunting only on private land at least 1 day during the spring season; 34% reported hunting at least 1 day on public land only, and 30% reported hunting the same day on both public and private land. In 1994, over 68% of permit-buyers reported hunting exclusively on private land, whereas only 12.5% reported hunting exclusively on public land. The remaining 19.1% reported hunting on both public and private land. Nearly two-thirds of permit-buyers hunted exclusively on private land in 1988, whereas

14.5% hunted exclusively on public land; the remaining 19.5% hunted on both public and private land.

Most landowners reported having had either very little or no problem with either interference by other hunters (91.0%) or with trespassing hunters (84.5%) during the 2011 spring turkey season. Similarly, most permit-buyers in 2011 also experienced either very little or no problem with interference by other hunters (84.5%) or with trespassing hunters (85.1%).

Interference rates for permit-buyers have declined each year that the turkey hunter information survey has been conducted. In 2011, just 14.3% of permit-buyers indicated that they experienced either a great problem or somewhat of a problem with interference by other hunters. In 2000, 1994, and 1988, the percentage of permit-buyers that reported experiencing either a great problem or somewhat of a problem with interference by other hunters was 21.2%, 23.9%, and 26.5%, respectively. Issues with trespassing hunters were also less of a problem in 2011 than in any other survey year. In 2011, 9.5% of permit-buyers reported experiencing either a great problem or somewhat of a problem with trespassing hunters. The percentage of permit-buyers that experienced either a great problem or somewhat of a problem with trespassing hunters. The percentage of permit-buyers that experienced either a great problem or somewhat of a problem with trespassing hunters in 2000, 1994, and 1988 was 15.5%, 15.6%, and 16.2%, respectively.

During the 2011 spring turkey season, approximately 6% (5.5% and 5.9%, respectively) of landowners and permit-buyers reported shooting at and hitting a turkey that they were unable to retrieve. Of these hunters, the average number of turkeys hit, but not retrieved was 1 (1.1 \pm < 0.1 and 1.1 \pm 0.1, respectively). A greater percentage of permit-buyers reported shooting at and hitting a turkey that they were unable to retrieve in both 2000 (8.8%) and 1994 (8.2%). Of landowner respondents, 14% reported flushing a hen off of the nest during the 2011 spring turkey season, whereas 16.1% of permit-buyers reported flushing a hen off of the nest. Of those

landowners and permit-buyers that reported flushing a hen, the average number of hens flushed from their nests was 2 (2.2 ± 0.2 and 2.3 ± 0.1 , respectively). During 2000 and 1994, 23.2% and 19.8% of permit-buyers, respectively, reported flushing a hen off of the nest. Of the permit-buyers who reported flushing a hen from the nest in 2000 and 1994, the average number of hens flushed was 3.

Expenditures by Missouri Spring Turkey Hunters

During the 2011 spring turkey season, landowners spent the most money on transportation ($\bar{x} = \$38.95$), new firearms ($\bar{x} = \23.68), food and drink ($\bar{x} = \$23.38$), special hunting clothes ($\bar{x} = \$20.83$), and other related items ($\bar{x} = \$12.64$). Permit-buyers in 2011 spent the most money on transportation ($\bar{x} = \$89.92$), rented/leased hunting land ($\bar{x} = \$48.96$), food and drink ($\bar{x} = \39.76), new firearms ($\bar{x} = \$39.50$), and special hunting clothes ($\bar{x} = \$28.71$) (Table 3). Average total expenditures during the 2011 spring turkey season for landowners and permit-buyers were \$151.72 and \$306.83, respectively. The average expenditures for permit-buyers in 2000, 1994, and 1988 were \$210.65, \$161.10, and \$113.86, respectively (Table 3).

Behavior during, and Opinions about, Spring Turkey Season in Missouri

In 2011, landowners indicated that hearing turkeys gobble, seeing turkeys, killing an adult gobbler, observing other wildlife, and working a gobbler were the top 5 conditions from which they got the greatest enjoyment. The top 5 conditions from which permit-buyers got the greatest enjoyment were hearing turkeys gobble, hunting with friends and family, killing an adult gobbler, seeing turkeys, and working a gobbler. Killing a gobbler and observing other wildlife ranked in the top 5 conditions in 2000, 1994, and 1988; seeing turkeys, hunting with friends and family, working a gobbler, hearing turkeys gobble, seeing hens with gobblers, and teaching someone else to hunt ranked in the top 5 in at least 1 survey year.

In 2011, 71.4% and 79.9% of landowners and permit-buyers, respectively, indicated that they received great enjoyment from killing an adult gobbler, whereas just 17.2% and 16.7% of landowners and permit-buyers, respectively, indicated that they received great enjoyment from killing a jake (one-year-old male turkey). As Missouri's turkey hunters have become more experienced, survey results have indicated that they receive less enjoyment from killing a jake. In 2011, 41.4% and 40.5% of landowners and permit-buyers, respectively, indicated that they received either great or some enjoyment from killing a jake. In 2000, 1994, and 1988, the percentage of permit-buyers indicating that they received either great or some enjoyment from killing a jake was 47.8%, 53.4%, and 56.8%, respectively. In 2011, just 26.0% and 19.6% of landowners and permit-buyers, respectively, indicated that they shoot the first legal male turkey that comes within shotgun range. In 2000 and 1994, 25.1% and 30.0% of permit-buyers, respectively, reported that they shot the first legal male turkey that came within shotgun range (Figure 5). Missouri's spring turkey hunters are clearly becoming more selective, showing more of a preference for shooting adult gobblers in each survey year.

Despite the fact that the majority of respondents in 2011 preferred hunting and shooting adult gobblers, 44.2% and 50.7% of landowners and permit-buyers, respectively, indicated that they will shoot a jake under some circumstances. When asked about the idea of a regulation which would only allow adult gobblers to be shot during the spring turkey season, there was more opposition than support from both landowners (50.3% opposition; 27.6% support) and permit-buyers (48.4% opposition; 30.6% support) (Table 4). Survey data indicate that although most spring turkey hunters would rather shoot an adult gobbler than a jake, hunters still prefer having the option of shooting a jake.

In 2011, 72.2% of respondents believed that there are enough turkeys in Missouri to allow them ample opportunity to harvest a bird. The majority of respondents in each region of the state also believed that there are enough turkeys in Missouri to allow them ample harvest opportunity. Regionally, the percentage of respondents that believed that there were enough turkeys to allow them ample opportunity to harvest a bird was highest in the West Prairie (81.5%) and Northwest (77.7%), and lowest in the Northeast (61.1%) and Ozarks East (66.6%) (Figures 2 and 6). When asked about turkey numbers in the area in which they hunt, the majority of respondents (51.3%) indicated that there were fewer turkeys than 5 years ago; 25.0% indicated that there were about the same number of turkeys as 5 years ago, and 10.4% indicated that there were more turkeys than 5 years ago. Regionally, the majority of respondents in the Northeast (70.6%), Ozarks East (56.6%), Ozarks West (54.8%), and Northwest (52.9%) indicated that there were fewer turkeys than 5 years ago (Figure 2, Table 5).

In 2011, most landowners (69.5%) and permit-buyers (73.3%) believed that there are enough turkeys in Missouri to allow them ample opportunity to harvest a bird, although the majority (52.3% and 50.8%, respectively) indicated that there were fewer turkeys in the area where they hunted than there were 5 years ago. The percentage of permit-buyers indicating that there are enough turkeys in Missouri to allow ample harvest opportunity in 2011 (73.3%) was lower than in 2000 (89.0%), 1994 (85.0%), and 1988 (91.3%) (Figure 7). Hunter perceptions of lower turkey numbers are generally consistent with results from MDC's wild turkey brood survey and bowhunter observation survey.

When asked to rate factors that may have contributed to lower turkey numbers in the area in which they hunt, the majority of landowners and permit-buyers in 2011 indicated that they felt bad weather during nesting (60.0% and 61.2%, respectively), bad hatches (53.9% and 58.1%,

respectively), and predators (56.7% and 51.0%, respectively) contributed greatly to lower turkey numbers. Just 6.5% and 6.9% of landowners and permit-buyers, respectively, felt that hunting had contributed greatly to reduced turkey numbers. Similarly, when asked what impact the fall turkey season has on the quality of spring turkey hunting, just 12.4% and 13.2% of landowners and permit-buyers, respectively, felt that the fall turkey season has a negative impact on the quality of spring turkey hunting.

The starting date of Missouri's regular spring turkey season has been the third Monday in April since 2006. In 2011, most landowners (53.0%) and permit-buyers (52.7%) felt the season timing was about right, whereas 32.3% and 37.3%, respectively, indicated that the season opened too late; 3.4% and 2.4% of landowners and permit-buyers, respectively, indicated that the season opened too early. A greater percentage of respondents felt that the season timing was about right, rather than too early or too late in all regions of the state, with the exception of the Mississippi Lowlands (note small sample size (n = 24)) (Table 6).

Missouri's regular spring turkey season has been 21 days in length since 1998. In 2011, the majority of landowners (68.2%) and permit-buyers (67.2%) felt the season is about the right length, whereas 13.3% and 20.9% of landowners and permit-buyers, respectively, felt that the season is too short; a smaller percentage of landowners (10.8%) and permit-buyers (7.7%) felt that the season was too long. In 2000, the majority of permit-buyers (73.3%) also indicated that the 21-day spring turkey season was about the right length. In 1994 and 1988, despite having a season that was 1 week shorter than in 2011 and 2000, the majority of permit-buyers (71.7% and 74.6%, respectively) also felt that the season was about the right length.

Opinions about Missouri Spring Turkey Hunting Regulations

In 2011, the majority of respondents were opposed to (64.7%), rather than supportive of (18.7%), reducing the spring season length to 2 weeks. The majority of respondents in all regions were opposed to reducing the spring season length (Figure 2, Table 7). The majority of respondents were also opposed to (67.6%), rather than supportive of (17.7%), reducing the spring bag-limit to 1 bird, as were the majority of respondents in all regions (Figure 2, Table 7).

The majority of landowners and permit-buyers were also opposed to (58.4% and 67.0%, respectively), rather than supportive of (22.4% and 17.2%, respectively), reducing the spring season length to 2 weeks. There was also more opposition (62.1% and 69.8%, respectively) than support (20.7% and 16.5%, respectively) among landowners and permit-buyers for reducing the spring bag-limit to 1 turkey. Similarly, in 2000, the majority of permit-buyers (80.7%) felt that a 3-week season, but only a 1-bird limit was a bad idea (Table 4).

In 2011, more landowners supported (41.2%), rather than opposed (36.6%), opening the spring season on a weekend (Saturday); permit-buyers, however, showed more opposition (43.4%) than support (37.7%) for this regulatory option (Table 4). More permit-buyers in 1994 also felt that opening the spring season on a Saturday was a bad idea (47.6%) rather than a good idea (40.8%). More permit-buyers in 2000, however, felt that a Saturday starting date was a good idea (45.6%) than a bad idea (41.2%). Slightly more permit-buyers in 1988 also felt that opening the season on a Saturday was a good idea (45.5%) than not a very good idea (44.5%) (Table 4).

In 2011, more landowners were opposed to allowing 2 birds to be shot on the same day (42.3% opposition; 40.2% support), whereas permit-buyers were more supportive (48.6%) than opposed (36.1%) to this regulatory option (Table 4). Support for allowing 2 turkeys to be shot on the same day has increased over time. In 2000, 42.0% of permit-buyers felt that this regulatory

option was a good idea, whereas, in 1994 and 1988, just 29.2% and 22.8% of permit-buyers, respectively, felt that shooting 2 turkeys on the same day was a good idea (Table 4).

In 2011, more landowners and permit-buyers supported (54.2% and 64.5%, respectively), rather than opposed (23.6% and 19.8%, respectively), allowing 2 turkeys to be shot on successive days any time during the season. In 2000, the majority of permit-buyers (74.6%) felt that being able to shoot 1 turkey per day on 2 consecutive days any time during the season was a good idea, whereas only 14.4% felt that this was a bad idea. The majority of permit-buyers in 1994 (54.0%) and 1988 (51.5%) also felt that allowing 2 turkeys to be shot on successive days was a good idea (Table 4).

When asked about allowing all-day hunting during the regular spring turkey season, the majority of respondents (56.8%) were supportive, whereas 30.0% were opposed. All-day hunting received more support than opposition in all regions of the state (Figure 2, Table 7). Being allowed to hunt all-day during the regular season also received more support from both landowners (53.3%) and permit-buyers (58.2%) than it did opposition (32.1% and 29.0%, respectively). The amount of support for all-day turkey hunting during the spring season has varied throughout the period in which turkey hunter information surveys have been conducted. Specifically, the majority of permit-buyers in 1988 (52.7%) thought that all-day hunting was a good idea; however, more permit-buyers in 1994 and 2000 thought that all-day hunting was a bad idea (49.7% and 47.3%, respectively) rather than a good idea (39.3% and 41.7%, respectively) (Table 4).

The use of crossbows by all turkey hunters is currently prohibited during the spring turkey season in Missouri. In 2011, more landowners were supportive (32.5%) than opposed to (30.2%) allowing the use of crossbows by all hunters. Similarly, more permit-buyers were

supportive (30.8%) rather than opposed to (28.7%) allowing the use of crossbows by all hunters during the spring season.

Opinions about Missouri Fall Turkey Hunting Regulations

The majority of respondents in 2011 were opposed to (59.2%), rather than supportive of (18.8%), closing the fall firearms turkey season; opposition was greater than support in all regions of the state (Figure 2, Table 8). The majority of landowners and permit-buyers were also opposed to (65.9% and 56.6%, respectively), rather than supportive of (17.1% and 19.7%, respectively), closing the fall firearms season (Table 9). More survey respondents were opposed to (44.8%), rather than supportive of (32.8%), reducing the bag-limit to 1 fall turkey (firearms and archery combined). Opposition for reducing the bag-limit to 1 fall turkey was greater than support in all regions of the state, with the exception of the Northeast, where 46.4% of respondents supported this option and 30.6% were opposed (Figure 2, Table 8). More landowners (48.9%) and permit-buyers (43.2%) were opposed to, rather than supportive of (30.7% and 33.6%, respectively), reducing the fall bag-limit to 1 turkey (Table 9).

In 2011, respondents showed slightly more support (39.2%) than opposition (38.4%) for reducing the bag-limit to 1 turkey during the fall firearms season. There was more support than opposition for this regulatory option in the Lindley Breaks, Northeast, Ozarks East, Ozarks West, and Union Breaks regions (Figure 2, Table 8). In 2011, landowners showed more opposition (44.8%) than support for (36.4%) reducing the bag-limit to 1 turkey during the fall firearms season, whereas permit-buyers showed more support (40.3%) than opposition (35.8%) for this regulatory option (Table 9).

When asked about reducing the fall firearms turkey season to 2 weeks, respondents showed more opposition (39.8%) than support (34.3%). Similarly, respondents from most

regions of the state showed more opposition than support for a season length reduction; however, support was greater than opposition in both the Northeast and Ozarks East regions (Figure 2, Table 8). Both landowners and permit-buyers showed more opposition (45.5% and 37.4%, respectively) than support (32.1% and 35.3%, respectively) for a 2-week fall firearms turkey season (Table 9). The majority of landowners (83.2%) and permit-buyers (77.1%) were opposed to allowing the use of dogs to hunt turkeys during the fall firearms season (Table 9).

Survey respondents that indicated that they had hunted during the 2010 fall firearms turkey season showed more opposition to more conservative fall turkey hunting regulations than did all respondents. As would be expected, the majority of fall firearms turkey hunters were opposed to closing the fall firearms turkey season (78.8%) (Table 9). Most fall firearms turkey hunters were also opposed to (61.8%), rather than supportive of (24.5%), reducing the fall baglimit (firearms and archery seasons combined) to 1 turkey. The majority of fall firearms turkey hunters were opposed to (55.2%), rather than supportive of (30.2%), reducing the bag-limit to 1 turkey during the fall firearms season (Table 9). Fall firearms turkey hunters also showed more opposition (58.2%) than support for (25.0%) reducing the fall firearms turkey season length to 2 weeks. The majority of fall firearms turkey hunters (82.1%) were also opposed to allowing the use of dogs to hunt turkeys during the fall firearms season (Table 9).

The Conservation Department's approach to turkey harvest management has traditionally involved establishing turkey hunting regulations that applied to the entire state (i.e., statewide season lengths and bag-limits). When asked about MDC's turkey management approach, landowners and permit-buyers indicated more support for establishing turkey management zones with region-specific regulations (39.1% and 39.2%, respectively) than for establishing turkey hunting regulations that apply to the entire state (22.6% and 30.1%, respectively). Conversely, in

2000, just 10.3% of permit-buyers thought that hunter choice zones (i.e., hunters select the portion of the state where they want to hunt, but would not be allowed to hunt the entire state) were a good idea, whereas, 73.3% thought that this regulatory option was a bad idea. Similarly, in both 1994 and 1988, only a small percentage of permit-buyers (8.7% and 8.6%, respectively) felt that hunter choice zones were a good idea. This difference in hunter preference for zone-specific regulations is likely the result of the wording used in the 2011 survey, which did not state (nor did it intend to state) that zoning would result in restricted hunter access to certain portions of the state (see Appendix II). Nonetheless, results of the 2011 survey indicate that more hunters would be supportive than opposed to MDC establishing turkey harvest regulations at the regional rather than statewide scale, assuming unrestricted hunter access.

Turkey Hunting Safety

Landowners (26.5%) were less likely than permit-buyers (34.7%) to have ever been concerned about being shot by another turkey hunter. Of those landowners and permit-buyers that indicated that they had ever been concerned about being shot by another turkey hunter, the average number of times that this occurred was 3 (2.5 ± 0.2 and 3.2 ± 0.3 , respectively). The percentage of permit-buyers indicating concern about being shot by another turkey hunter has declined considerably from 67.8% in 1988, to 64.2% in 1994, to 55.8% in 2000, to 34.7% in 2011. This decline, as well as the dramatic decline in the number of mistaken-for-game turkey hunting incidents in Missouri can likely be attributed to an increase in the number of hunters receiving hunter education training. Although a voluntary hunter education course was available, mandatory hunter education (for hunters born on or after 1 January 1967) was not instituted until 1988. Only 44.2% of survey respondents reported being hunter education certified in 1988. By 1994 and 2000, the percentage of survey respondents that had taken a hunter education course

had increased to 54.9% and 66.8%, respectively. Although a hunter education-related question was not asked on the 2011 survey, it is likely that even more of Missouri's turkey hunters have received hunter education training.

In 2011, most landowners (79.1%) and permit-buyers (71.9%) indicated that they had never attended a turkey hunting seminar. For those landowners that had never attended a seminar, the majority (51.1%) indicated that they would not attend one. Conversely, for those permit-buyers that had never attended a seminar, the majority (63.5%) indicated that they would attend a seminar. In 1988, 1994, 2000, and 2011, the percentage of permit-buyers indicating that they would attend a turkey hunting seminar declined from 75.1%, to 74.8%, to 70.9%, to 63.5%, respectively. It appears that as Missouri's turkey hunters become more experienced, the desire for additional information such as that which can be learned from attending seminars has declined; regardless, the fact that the majority of permit-buyers that have never attended a seminar would attend one demonstrates that, although the desire for additional turkey hunting knowledge may not be as great as it once was, the need for this information still exists. MDC can capitalize on this need by continuing to offer educational opportunities for turkey hunters.

The majority of landowners (72.7%) and permit-buyers (67.8%) in 2011 indicated that they were not in favor of a special mandatory hunter education course for turkey hunters. The percentage of permit-buyers in support of a special mandatory hunter education course for turkey hunters has declined from 47.1% in 1988, to 40.5% in 1994, to 38.5% in 2000, and to 32.2% in 2011. This decline is possibly due to turkey hunters becoming more experienced and educated over time, thus reducing their impression that additional education and training efforts targeted specifically at turkey hunters are needed.

In 2011, the majority of landowners (82.6%) and permit-buyers (87.3%) were not in favor of a regulation requiring turkey hunters to wear an outer garment of hunter orange while turkey hunting during the firearms seasons. The majority of permit-buyers in 2000 (88.3%), 1994 (87.5%), and 1988 (82.3%) also indicated that they were not in favor of this regulation. In 2011, the majority of landowners (76.5%) and permit-buyers (82.5%) indicated that they never wear hunter orange at all times during a spring turkey hunt; however, nearly half of landowners (47.1%) and permit-buyers (46.9%) indicated that they at least occasionally wear hunter orange while moving through the woods during a spring turkey hunt. The majority of permit-buyers in 2000 (83.4%), 1994 (83.1%), and 1988 (82.2%) also indicated that they never wore hunter orange at all times during a turkey hunt, but similar to the responses to the 2011 survey, nearly half of respondents in each year indicated that they at least occasionally wear hunter orange.

In 2011, the majority of landowners (60.7%) and permit-buyers (76.4%) indicated that they either always or usually leave the area if they find another hunter already calling to a gobbler that they heard and went to; 24.7% of landowners and 12.7% of permit-buyers indicated that they never leave the area if they find another hunter already calling to a gobbler that they heard and went to. Similarly, most permit-buyers in 2000 (80.2%), 1994 (79.9%), and 1988 (80.2%) indicated that they either always or usually leave the area if they find another hunter already calling to a gobbler that they heard and went to. A considerably smaller percentage of permit-buyers in these years (10.2%, 9.0%, and 8.9%, respectively) indicated that they never leave the area if they find another hunter already calling to a gobbler that they heard and went to. After a successful hunt, 43.3% of landowners and 52.3% of permit-buyers indicated that they either always or usually wrap hunter orange around, or conceal a dead turkey while transporting

it through the woods. In 2000, 1994, and 1988, 51.9%, 54.3%, and 47.1% of permit-buyers, respectively, indicated that they behaved in this manner after a successful hunt.

In 2011, 28.7% of landowners indicated that they always use a decoy while spring turkey hunting; 83.5% indicated that they at least occasionally use a decoy. Decoy use was more common among permit-buyers, with 36.4% indicating that they always use a decoy, and 91.9% indicating that they at least occasionally use a decoy. A hen decoy was the most popular decoy choice, with 59.2% and 68.3% of landowners and permit-buyers, respectively, indicating that they either always or usually use a hen decoy while turkey hunting in the spring; 35.7% and 44.3% of landowners and permit-buyers, respectively, indicated that either always or usually use a jake decoy. A smaller percentage of landowners (15.7%) and permit-buyers (20.3%) either always or usually use a full strut gobbler decoy while spring turkey hunting.

The use of decoys by spring turkey hunters in Missouri has increased considerably since the first turkey hunter information survey was conducted. In 1988, just 13.0% of permit-buyers indicated that they either always or usually used a decoy while turkey hunting in the spring; the majority (60.5%) indicated that they never used a decoy. In 1994, the percentage of permit-buyers reporting that they either always or usually used a decoy while spring turkey hunting had increased to 32.9%, whereas those indicating that they never used a decoy declined to 32.6%. By 2000, 57.3% of permit-buyers indicated that they either always or usually used a decoy; just 13.0% of permit-buyers indicated that they never used a decoy.

CONCLUSIONS

Although it's been 23 years since the first turkey hunter information survey was conducted, responses to the 2011 survey indicate that turkey hunters continue to receive the greatest enjoyment from hearing turkeys gobble, seeing turkeys, working and killing a gobbler,

observing other wildlife, and hunting with friends and family. Missouri's turkey hunters also continue to have little difficulty finding a place to spring turkey hunt. In addition to private land, on which most turkey hunters pursue turkeys, Missouri has an abundance of public land available to turkey hunting. Survey results continue to indicate that many of Missouri's turkey hunters take advantage of public land hunting opportunities. Despite the amount of use that public lands receive from Missouri's 138,000 spring turkey hunters, interference rates among spring turkey hunters continue to be low. The fact that Missouri has one of the highest number of spring turkey hunters in the nation, yet maintains low interference rates, reaffirms that the current approach of a statewide season open to all hunters is most appropriate at this time.

Although survey results indicate that most hunters have little difficulty locating a place to spring turkey hunt, leasing of private land for spring turkey hunting has increased considerably since the first turkey hunter information survey was conducted. If the amount of land leased for hunting increases in the coming years, this could result in additional hunting pressure being placed on public lands; therefore, the need to actively manage these areas to provide quality hunting opportunities may become increasingly important on those areas for which this is an objective.

Missouri's turkey hunters in 2011 were more experienced than hunters in any other survey year. This increased experience, as well as an increased percentage of hunters receiving hunter education training, is likely to have contributed to the decline in mistaken-for-game turkey hunting incidents in Missouri. Since the first turkey hunter information survey was conducted in 1988, MDC and organizations like the National Wild Turkey Federation have continued to emphasize the importance of safe turkey hunting practices. Survey results from 2011 indicate that turkey hunting in Missouri is a safer sport than it was years ago.

Despite poor turkey production for 4 consecutive years prior to conducting the 2011 survey, nearly 40% of hunters that bought a permit to spring turkey hunt were successful. Although a considerable number of Missouri's spring turkey hunters were able to harvest a turkey, spring turkey hunter success was lower in 2011 than in any other survey year. In addition to declines in hunter success, declines in hunter satisfaction were observed as well. Since both success and satisfaction are likely to be impacted greatly by turkey abundance, it is not unexpected that each has declined considering that turkey numbers have declined since the last turkey hunter information survey was conducted. A considerable number of factors that contribute to high satisfaction and a great hunting experience (e.g., hearing turkeys gobble, seeing turkeys, working and killing an adult gobbler) are affected by turkey abundance. As such, hunter success and satisfaction can be expected to ebb and flow with turkey numbers.

Results of the 2011 turkey hunter information survey indicate that the majority of hunters recognize that poor production has contributed greatly to lower turkey numbers, although a considerable number of hunters felt that predators had also contributed greatly. The majority of respondents did not feel that hunting had contributed greatly to reduced turkey numbers. As such, respondents were largely supportive of the current spring turkey season framework with respect to season length, bag-limit, and timing. The majority of hunters in 2011 were not in favor of more restrictive spring turkey hunting regulations (e.g., 2-week season or 1-bird bag-limit). Even in Northeast Missouri, where the most substantial declines in turkey numbers have been observed, most respondents were opposed to more restrictive spring turkey hunting regulations.

Rather than a desire for more restrictive spring regulations, survey respondents showed more support than opposition for spring season liberalizations including all-day hunting, allowing the use of crossbows, allowing 2 turkeys to be shot on the same day, as well as allowing

2 turkeys to be shot on successive days any time during the season. Spring turkey hunting regulations in Missouri are based largely on the objectives of providing a quality hunting experience with minimal hunter interference and a good opportunity to harvest an adult gobbler. Assuming that spring turkey regulations, at present harvest rates, do not impact population growth, spring regulation liberalizations are based largely on their perceived impact on hunting quality. Considering that declines in hunter success and satisfaction have been observed in recent years, the impact of further liberalizations on the quality of the spring season should be evaluated carefully at this time.

Although most respondents in 2011 were opposed to more restrictive spring turkey hunting regulations, survey results indicated substantially less opposition to more restrictive fall turkey hunting regulations. It is important to consider, however, that the 2011 survey was mailed to spring turkey hunters, of which only a portion were fall turkey hunters. Although the majority of respondents did not support closing the fall firearms turkey season, slightly more respondents were in favor of reducing the bag-limit to 1 turkey. Survey results from fall firearms turkey hunters, however, indicated that most were opposed to fall turkey season regulation restrictions. Thus, a considerable difference of opinion exists between those that do and do not participate in the fall turkey season.

At the regional scale, opinions regarding fall turkey regulations varied considerably.

Areas of the state that had experienced the most substantial declines in turkey numbers tended to be more supportive of fall season regulation restrictions, even though only a small percentage of respondents felt that hunting had contributed greatly to reduced turkey numbers. These responses reflect the overall conservative nature of Missouri's turkey hunters. Although the state is divided into Turkey Productivity Regions, Missouri's current turkey management harvest strategy does

not generally incorporate a regional harvest management approach, which would be necessary to address regional regulations issues, should the need arise. Survey results indicate that more hunters would be supportive than opposed to MDC establishing turkey harvest regulations on a regional rather than a statewide basis.

In short, Missouri's turkey hunters have become more experienced and increasingly safe. Many of the factors that contribute to a great spring turkey hunting experience remain unchanged. Missouri spring turkey hunters desire to see and hear turkeys, hunt with friends and family, and harvest an adult gobbler. Reduced turkey numbers in recent years have resulted in lower hunter success rates, and as well as lower hunter satisfaction. Nevertheless, most hunters are supportive of the current spring season structure with respect to season length, bag-limit, and timing. Although survey respondents were largely opposed to more restrictive spring turkey regulations, opinions regarding fall turkey hunting regulations varied considerably. It is also important to note that a substantial difference existed between the opinions of all respondents and those that hunted turkeys during the fall firearms turkey season. Support for more restrictive turkey hunting regulations (particularly fall turkey hunting regulations) appears to be impacted by turkey population status. Specifically, in areas where turkey numbers have declined most substantially, survey results indicate the tendency of hunters to favor more restrictive regulations, despite a belief by the majority of respondents that hunting did not contribute greatly to reduced turkey numbers. These responses reflect the overall conservative nature of Missouri's turkey hunters. As turkey harvest management continues to evolve in Missouri, these are important considerations to incorporate into the decision-making progress.

This survey as well as previous turkey hunter information surveys has provided a wealth of information, which has been a great considerable benefit to MDC's turkey harvest

management program. As hunter characteristics, attitudes, and opinions are likely to change based on any number of factors, such as the number of turkeys and/or turkey hunters, conducting periodic surveys at regular intervals in the coming years will allow the agency to continue to make informed management decisions.

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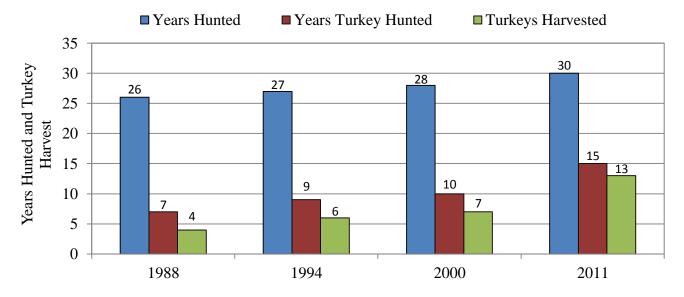


Figure 1. Years of hunting experience, years of spring turkey hunting experience, and number of turkeys harvested during the spring season in Missouri by spring turkey permit-buyers. Data are from the 1988, 1994, 2000, and 2011 Missouri turkey hunter information surveys.

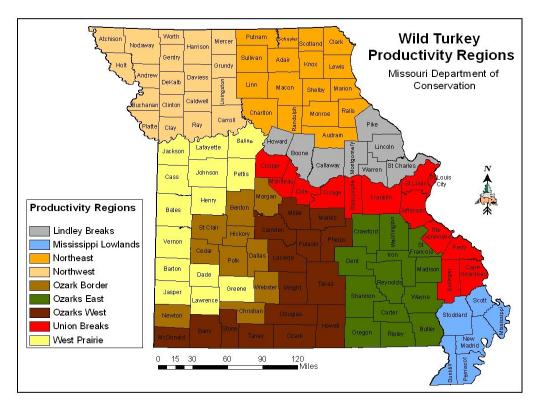


Figure 2. Turkey Productivity Regions in Missouri. Each region consists of counties grouped by similar land cover composition.

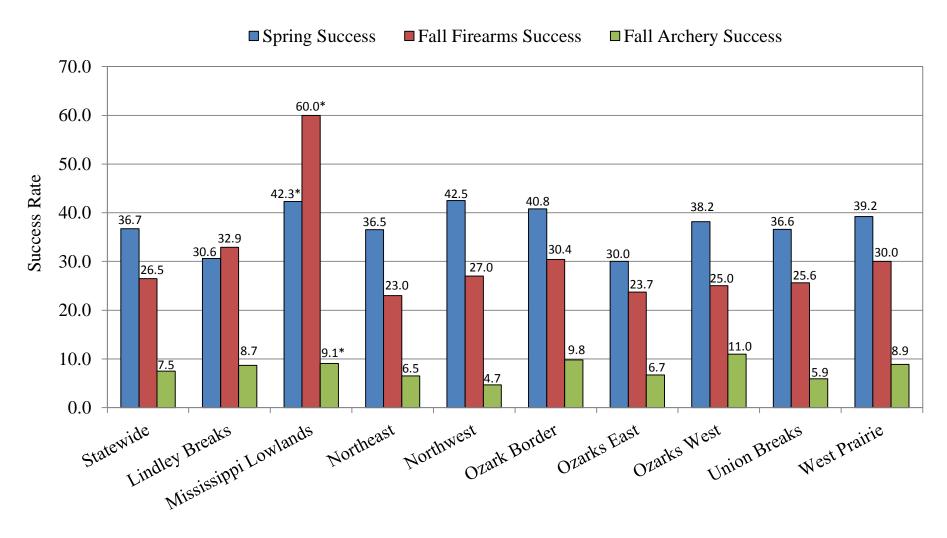


Figure 3. Success rates of Missouri turkey hunters during the spring, fall firearms, and fall archery turkey seasons. Data are from the Missouri 2011 turkey hunter information survey, and are the percentage of respondents statewide and by Turkey Productivity Region (Figure 2) that harvested at least 1 turkey (* indicates small sample size).

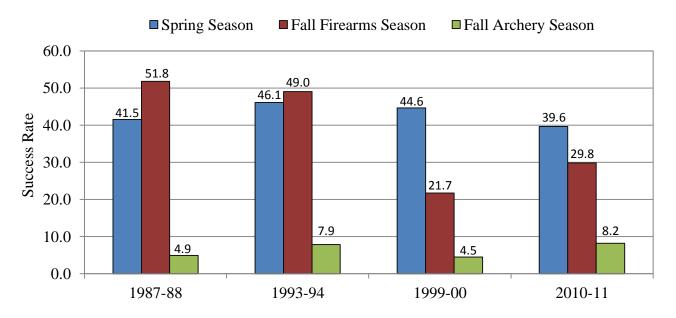


Figure 4. Success rates of Missouri turkey hunters during the spring, fall firearms, and fall archery turkey seasons. Data are the percentage of permit-buyers that harvested at least 1 turkey. Spring turkey season data are from 1988, 1994, 2000, and 2011; fall firearms and fall archery turkey season data are from 1987, 1993, 1999, and 2010.

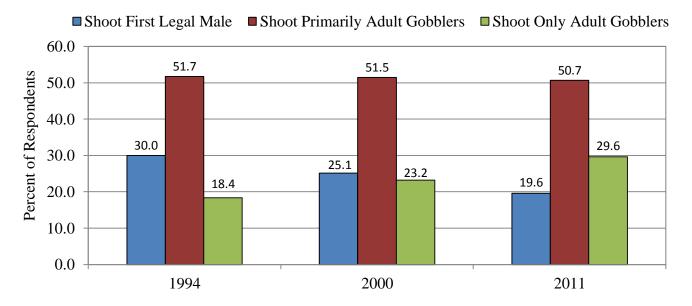


Figure 5. Percentage of Missouri spring turkey permit-buyers that: shoot the first legal male turkey that comes within shotgun range, hunt and shoot adult gobblers primarily but will, under some circumstances, shoot a jake, or hunt and shoot only adult gobblers. Data are from the 1994, 2000, and 2011 Missouri turkey hunter information surveys.

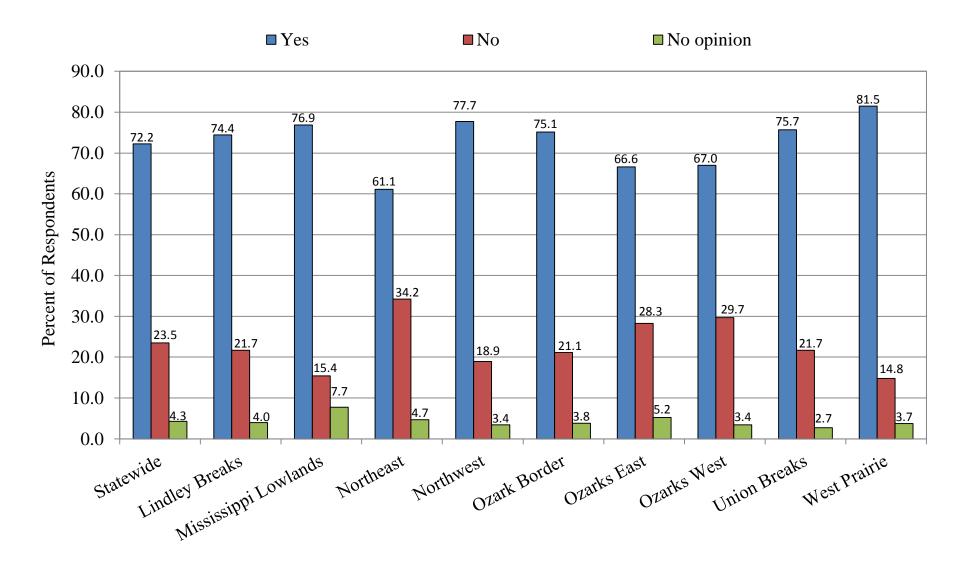


Figure 6. Responses to the question: do you believe there are enough turkeys in Missouri to allow you ample opportunity to harvest a bird? Data are the responses of respondents statewide and by Turkey Productivity Region (Figure 2) to the 2011 Missouri turkey hunter information survey.

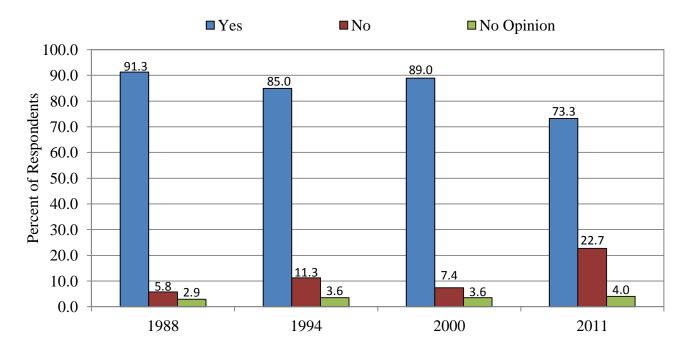


Figure 7. Responses to the question: do you believe there are enough turkeys in Missouri to allow you ample opportunity to harvest a bird? Data are the responses of permit-buyers to 1988, 1994, 2000, and 2011 Missouri turkey hunter information surveys.

Table 1. Missouri spring turkey hunter ratings of their 2011 spring turkey season. Data are from respondents to the 2011 Missouri turkey hunter information survey, and are presented by Turkey Productivity Region (Figure 2) and statewide.

	Excellent	Good	Fair	Poor	No opinion
Productivity Region	(%)	(%)	(%)	(%)	(%)
Lindley Breaks	11.2	29.6	28.1	29.9	1.2
Mississippi Lowlands ^a	19.2	26.9	34.6	19.2	0.0
Northeast	12.1	20.1	29.5	36.8	1.6
Northwest	13.6	25.1	30.3	29.8	1.2
Ozark Border	14.7	24.8	31.9	28.0	0.6
Ozarks East	8.9	19.5	29.3	39.8	2.4
Ozarks West	12.3	23.4	24.0	39.3	1.0
Union Breaks	12.9	26.4	33.0	26.6	1.1
West Prairie	16.9	22.2	35.0	23.6	2.3
Statewide	13.0	24.0	30.1	31.5	1.5

^a Indicates small sample size.

Table 2. Missouri spring turkey hunting permit-buyer ratings of their 2011 spring turkey season. Data are from the 1988, 1994, 2000, and 2011 Missouri turkey hunter information surveys.

	1988	1994	2000	2011
Survey question	(%)	(%)	(%)	(%)
How would you rate your				
spring turkey season?				
Excellent	17.5	18.8	21.7	14.1
Good	28.3	32.6	32.9	24.3
Fair	28.7	28.7	26.8	30.0
Poor	23.0	18.0	15.8	30.6
Very poor	2.6	Not asked	Not asked	Not asked
No opinion	Not asked	2.0	2.6	1.0

Table 3. Missouri spring turkey hunting permit-buyer estimates of turkey hunting expenses for the spring turkey season. Data are from the 1988, 1994, 2000, and 2011 Missouri turkey hunter information surveys.

	Mean expenses (\$)				
Items	1988	1994	2000	2011	
Special hunting clothes	14.88	21.51	26.13	28.71	
Turkey calls	7.90	10.41	13.81	15.23	
Ammunition	6.31	7.39	8.76	12.33	
New firearms	18.30	31.07	38.35	39.50	
Transportation	30.33	34.15	43.90	89.92	
Lodging	4.81	8.88	12.53	11.39	
Food and drink	19.13	22.91	29.97	39.76	
Rented/leased hunting land	2.85	11.56	19.03	48.96	
Taxidermy	3.46	3.95	6.03	5.56	
Other related items	5.86	9.26	12.14	18.64	
Total	113.86	161.10	210.65	306.83	

Table 4. Missouri spring turkey hunting permit-buyer opinions regarding spring turkey hunting regulations. Data are from the 1988, 1994, 2000, and 2011 Missouri turkey hunter information surveys.

	1988	1994	2000	2011
Survey question	(%)	(%)	(%)	(%)
1-bird limit (3-week season)				
Good idea	10.2	13.2	7.0	Not an option
Not a very good idea	79.7	75.6	Not an option	Not an option
Bad idea	Not an option	Not an option	80.7	Not an option
No opinion	10.1	11.2	12.3	Not an option
Support	Not an option	Not an option	Not an option	16.5
Oppose	Not an option	Not an option	Not an option	69.8
Neither support nor oppose	Not an option	Not an option	Not an option	13.7
Opening the season on a				
weekend (Saturday)				
Good idea	45.5	40.8	45.6	Not an option
Not a very good idea	44.5	Not an option	Not an option	Not an option
Bad idea	Not an option	47.6	41.2	Not an option
No opinion	10.0	11.6	13.1	Not an option
Support	Not an option	Not an option	Not an option	37.7
Oppose	Not an option	Not an option	Not an option	43.4
Neither support nor oppose	Not an option	Not an option	Not an option	18.9
Allowing 2 birds to be shot on				
the same day				
Good idea	22.8	29.2	42.0	Not an option
Not a very good idea	66.8	Not an option	Not an option	Not an option
Bad idea	Not an option	59.8	46.4	Not an option
No opinion	10.4	11.0	11.6	Not an option
Support	Not an option	Not an option	Not an option	48.6
Oppose	Not an option	Not an option	Not an option	36.1
Neither support nor oppose	Not an option	Not an option	Not an option	15.2
Allowing 2 birds to be shot on				
successive days any time				
during the season				
Good idea	51.5	54.0	74.6	Not an option
Not a very good idea	36.3	Not an option	Not an option	Not an option
Bad idea	Not an option	32.4	14.4	Not an option
No option	12.2	13.6	11.0	Not an option
Support	Not an option	Not an option	Not an option	64.5
Oppose	Not an option	Not an option	Not an option	19.8
Neither support nor oppose	Not an option	Not an option	Not an option	15.7

Table 4. Continued.

	1988	1994	2000	2011
Survey question	(%)	(%)	(%)	(%)
Allowing all-day hunting				
Good idea	52.7	39.3	41.7	Not an option
Not a very good idea	35.2	Not an option	Not an option	Not an option
Bad idea	Not an option	49.7	47.3	Not an option
No opinion	12.1	11.0	11.0	Not an option
Support	Not an option	Not an option	Not an option	58.2
Oppose	Not an option	Not an option	Not an option	29.0
Neither support nor oppose	Not an option	Not an option	Not an option	12.8

Table 5. Missouri spring turkey hunter perceptions of the number of turkeys in the area in which they hunt. Data are from respondents to the 2011 Missouri turkey hunter information survey, and are presented by Turkey Productivity Region (Figure 2) and statewide.

Productivity Region	Fewer turkeys than 5 years ago (%)	More turkeys than 5 years ago (%)	About the same number of turkeys as 5 years ago (%)	Don't know (%)
	46.0	10.4	26.8	16.8
Lindley Breaks				
Mississippi Lowlands ^a	30.8	26.9	26.9	15.4
Northeast	70.6	2.4	16.6	10.4
Northwest	52.9	11.2	24.8	11.2
Ozark Border	46.7	13.4	27.2	12.8
Ozarks East	56.6	7.6	22.6	13.2
Ozarks West	54.8	7.6	24.3	13.3
Union Breaks	49.7	10.9	28.7	10.7
West Prairie	41.9	16.0	28.5	13.7
Statewide	51.3	10.4	25.0	13.4

^a Indicates small sample size.

Table 6. Missouri spring turkey hunter perceptions of the timing (starting date) of the regular spring turkey season. Data are from respondents to the 2011 Missouri turkey hunter information survey, and are presented by Turkey Productivity Region (Figure 2) and statewide.

	Too early	About right	Too late	No opinion
Productivity Region	(%)	(%)	(%)	(%)
Lindley Breaks	1.5	57.8	35.0	5.8
Mississippi Lowlands ^a	0.0	33.3	54.2	12.5
Northeast	4.5	61.1	28.4	6.0
Northwest	4.3	60.2	28.1	7.4
Ozark Border	2.6	51.5	40.5	5.5
Ozarks East	3.0	47.7	42.5	6.8
Ozarks West	2.3	49.9	39.3	8.5
Union Breaks	1.4	50.3	41.5	6.8
West Prairie	1.9	48.8	40.3	9.0
Statewide	2.7	52.8	35.9	8.7

^a Indicates small sample size.

Table 7. Missouri spring wild turkey hunter opinions regarding spring turkey hunting regulations. Data are from respondents to the 2011 Missouri turkey hunter information survey, and are presented by Turkey Productivity Region (Figure 2) and statewide.

	G	Lindley	Mississippi	NT 1	NT d	Ozark
Survey question	Statewide (%)	Breaks (%)	Lowlands ^a (%)	Northeast (%)	Northwest (%)	Border (%)
Allowing only adult gobblers to be	(**)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
shot						
Support	29.8	27.6	19.2	36.6	32.1	27.6
Oppose	48.9	53.7	57.7	41.8	44.7	51.3
Neither support nor oppose	21.3	18.7	23.1	21.6	23.2	21.1
Reducing the season length to 2						
weeks						
Support	18.7	18.9	12.0	21.1	12.1	18.9
Oppose	64.6	65.7	56.0	60.7	75.8	63.9
Neither support nor oppose	16.7	15.4	32.0	18.3	12.1	17.2
Reducing the bag-limit to 1 bird						
Support	17.7	20.1	4.0	23.9	14.4	16.3
Oppose	67.6	65.1	76.0	59.7	73.8	72.8
Neither support nor oppose	14.7	14.8	20.0	16.5	11.8	10.9
Allowing all-day hunting						
Support	56.7	52.5	52.0	47.9	68.0	57.9
Oppose	30.0	34.4	24.0	40.3	19.8	28.0
Neither support nor oppose	13.3	13.2	24.0	11.9	12.3	14.1

^a Indicates small sample size.

Table 7. Continued.

	Ozarks	Ozarks	Union	West
	East	West	Breaks	Prairie
Survey question	(%)	(%)	(%)	(%)
Allowing only adult gobblers to				
be shot				
Support	28.5	31.1	31.2	20.9
Oppose	52.7	46.4	48.1	57.9
Neither support nor oppose	18.9	22.5	20.7	21.2
Reducing the season length to 2				
weeks				
Support	25.4	21.4	21.0	11.7
Oppose	60.8	60.4	61.8	74.0
Neither support nor oppose	13.8	18.2	17.2	14.3
Reducing the bag-limit to 1 bird				
Support	17.8	19.7	17.4	11.1
Oppose	69.7	64.3	67.2	75.7
Neither support nor oppose	12.5	16.0	15.4	13.2
Allowing all-day hunting				
Support	54.7	53.0	55.5	66.5
Oppose	34.3	34.4	31.1	20.7
Neither support nor oppose	11.0	12.7	13.7	12.8

Table 8. Missouri wild turkey hunter opinions regarding fall turkey hunting regulations. Data are from respondents to the 2011 turkey hunter information survey, and are presented by Turkey Productivity Region (Figure 2) and statewide.

	Statewide	Lindley Breaks	Mississippi Lowlands ^a	Northeast	Northwest	Ozark Border
Survey question	(%)	(%)	(%)	(%)	(%)	(%)
Close the fall firearms season						
Support	18.9	16.2	20.0	28.4	18.5	13.5
Oppose	59.3	59.8	68.0	48.7	59.7	65.1
Neither support nor oppose	21.8	24.0	12.0	22.9	21.8	21.4
Reduce the total fall bag-limit to 1 bird						
Support	32.8	31.5	28.0	46.4	30.1	28.9
Oppose	44.8	44.2	56.0	30.6	49.0	48.7
Neither support nor oppose	22.4	24.3	16.0	23.0	21.0	22.4
Reduce the fall firearms bag-limit						
to 1 bird						
Support	39.2	38.3	32.0	51.6	37.5	32.6
Oppose	38.3	34.5	48.0	25.7	39.7	46.5
Neither support nor oppose	22.5	27.2	20.0	22.7	22.8	20.9
Reduce the fall firearms season						
length to 2 weeks						
Support	34.4	33.4	32.0	46.2	34.4	30.1
Oppose	39.7	38.1	36.0	26.6	41.0	42.1
Neither support nor oppose	25.9	28.4	32.0	27.3	24.6	27.8

^a Indicates small sample size.

Table 8. Continued.

	Ozarks East	Ozarks West	Union Breaks	West Prairie
Survey question	(%)	(%)	(%)	(%)
Close the fall firearms season				
Support	24.2	22.9	16.9	12.1
Oppose	57.9	55.1	59.1	66.6
Neither support nor oppose	17.9	22.0	24.0	21.3
Reduce the total fall bag-limit to 1 bird				
Support	38.4	35.5	29.8	24.7
Oppose	44.0	43.1	45.6	53.4
Neither support nor oppose	17.6	21.4	24.6	21.9
Reduce the fall firearms bag-limit to 1 bird				
Support	47.7	42.2	37.4	32.3
Oppose	35.1	36.5	36.6	47.5
Neither support nor oppose	17.1	21.3	26.0	20.2
Reduce the fall firearms season				
length to 2 weeks				
Support	40.8	36.9	31.8	29.6
Oppose	39.1	37.9	40.7	46.6
Neither support nor oppose	20.1	25.2	27.5	23.8

Table 9. Missouri turkey hunter opinions regarding fall turkey hunting regulations. Data are from the 2011 Missouri turkey hunter information survey.

C	Landowners	Permit-buyers	Fall firearms hunters
Survey question	(%)	(%)	(%)
Close the fall firearms season	45.4	10.7	10.5
Support	17.1	19.7	10.5
Oppose	65.9	56.6	78.8
Neither support nor oppose	17.1	23.8	10.7
Reduce the total fall bag-limit to 1			
bird			
Support	30.7	33.6	24.5
Oppose	48.9	43.2	61.8
Neither support nor oppose	20.5	23.1	13.7
Reduce the fall firearms bag-limit			
to 1 bird			
Support	36.4	40.3	30.2
Oppose	44.8	35.8	55.2
Neither support nor oppose	18.9	24.0	14.6
Reduce the fall firearms season			
length to 2 weeks			
Support	32.1	35.3	25.0
Oppose	45.5	37.4	58.2
Neither support nor oppose	22.4	27.4	16.8
Allow the use of dogs to hunt			
turkeys during fall firearms season			
Support	4.7	6.4	7.0
Oppose	83.2	77.1	82.1
Neither support nor oppose	12.0	16.5	10.9

APPENDIX 1

Analysis of 1,127 returned questionnaires from a survey of randomly-selected landowners who obtained a no-cost landowner permit to hunt in Missouri during the 2011 spring turkey hunting season.

PART ONE: Your Missouri Turkey Hunting Experience

1.	Did '	vou hunt	turkeys	during th	ne 2011	REGULAR	SPRING turke	ev season?
		,						

<u>Yes</u>	<u>%</u>	<u>No</u>	<u>%</u>	<u>Nonresponse</u>
904	80.5	219	19.5	5

If so, how many turkeys did you kill during the 2011 REGULAR SPRING turkey season?

2. Did you hunt turkeys during the 2010 FALL FIREARMS turkey season?

<u>Yes</u>	<u>%</u>	<u>No</u>	<u>%</u>	<u>Nonresponse</u>
436	39.1	679	60.9	13

If so, how many turkeys did you kill during the 2010 FALL FIREARMS turkey season?

3. Did you hunt turkeys during the 2010 FALL ARCHERY turkey season?

If yes, how many turkeys did you kill during the 2010 FALL ARCHERY turkey season?

IF YOU DID NOT HUNT DURING THE 2011 SPRING TURKEY SEASON, SKIP TO QUESTION 17

4. How many days did you hunt during the 2011 REGULAR SPRING turkey season?

<u>Number</u>			<u>Number</u>			Number		
<u>Days</u>	<u>N</u>	<u>%</u>	<u>Days</u>	<u>N</u>	<u>%</u>	<u>Days</u>	<u>N</u>	<u>%</u>
1	74	8.6	8	35	4.1	15	8	0.9
2	154	17.9	9	7	0.8	16	2	0.2
3	140	16.3	10	40	4.7	17	0	n/a
4	141	16.4	11	7	0.8	18	5	0.6
5	96	11.2	12	8	0.9	19	1	0.1
6	83	9.7	13	0	n/a	20	2	0.2
7	44	5.1	14	7	0.8	21	5	0.6
N = 859	Mean	= 4.7	SE = 0.1	\mathbf{N}	Iedian =	4.0	Nonrespo	onse = 45

5. How many days of the 2011 REGULAR SPRING turkey season did you hunt:

	Mean	Median	<u>N</u>	Nonresponse
Only on private land	4.7	4.0	858	46
Only on public land	5.3	3.0	12	892
On both private and public land	4.0	4.0	42	862

6. How difficult was it for you to locate a place to hunt during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Very difficult	16	1.8
Difficult	21	2.4
Not too difficult	103	11.7
No problem	738	84.1
Nonresponse	26	

7. In what county did you hunt MOST during the 2011 REGULAR SPRING turkey season?

110 counties N = 877 Unknown = 1 Nonresponse = 27

8. How far is it (one-way) from your residence to the area you hunted MOST during the 2011 REGULAR SPRING turkey season?

N = 661 Mean = 35.4 miles Median = 7.0 miles SE = 2.1 Range = 0 - 340 miles Nonresponse = 243

9. How many hunters, other than those in your hunting party, did you encounter (i.e., see or hear) while turkey hunting during the 2011 REGULAR SPRING turkey season?

$$N = 255$$
 $Mean = 2.2$ $Median = 2.0$ $SE = 0.1$ $Range = 0 - 15$

Nonresponse = 649

10. Did you pay someone for the right to hunt turkeys on their land during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Yes	10	1.1
No	868	98.8
Nonresponse	25	

11. How would you rate your 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Excellent	86	9.9
Good	201	23.0
Fair	263	30.1
Poor	297	34.0
No opinion	26	3.0
Nonresponse	31	

12. How much of a problem did you have with the following during the 2011 REGULAR SPRING turkey season?

			Some	what						
	<u>G</u> 1	eat	<u>o</u> 1	<u>a</u>	Very	<u>Little</u>				
	Pro	<u>blem</u>	<u>Prob</u>	<u>olem</u>	<u>Prol</u>	<u>blem</u>	No Pr	<u>oblem</u>	Don't	Know
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Interference by other	20	2.3	44	5.1	81	9.4	707	81.6	14	1.6
hunters										
Nonresponse $= 38$										
Trespassing hunters	30	3.5	52	6.0	79	9.1	653	75.4	52	6.0
Nonresponse $= 38$										

13. We would like an estimate of your turkey hunting expenses for the 2011 REGULAR SPRING turkey season.

	Total 2011 Spring Turkey Hunting Expenses					
	Mean	<u>SE</u>	Median	<u>Minimum</u>	Maximum	
Special hunting clothes Nonresponse = 132	20.83	1.69	0	0	600.00	

	Total 2011 Spring Turkey Hunting Expenses				
	Mean	<u>SE</u>	Median	Minimum	Maximum
Turkey calls Nonresponse = 132	9.90	0.55	0	0	100.00
Ammunition Nonresponse = 132	9.90	0.39	10.00	0	60.00
New firearms Nonresponse = 132	23.68	4.92	0	0	2600.00
Transportation (gas, oil, repairs) Nonresponse = 132	38.95	2.46	5.0	0	500.00
Lodging (motel, cabin, campground) Nonresponse = 132	2.14	0.72	0	0	400.00
Food and drink (restaurants, groceries, snacks) Nonresponse = 132	23.38	1.75	0	0	500.00
Rented/leased hunting land Nonresponse = 132	3.08	1.13	0	0	500.00
Taxidermy Nonresponse = 132	7.22	2.44	0	0	1000.00
Other related items such as camera, film, knives, etc. Nonresponse = 132	12.64	3.46	0	0	2500.00
TOTAL	151.72	8.85	65.00	0	2600.00

14. Did you shoot at and hit a turkey that you were unable to retrieve during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Yes	48	5.5
No	832	94.6
Nonresponse	24	

If so, how many?

$$N=46$$
 Mean = 1.1 Median = 1.0
 $SE=<0.1$ Range = 1 - 2

Nonresponse = 858

15. Did you flush any hens off nests during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Yes	123	14.0
No	756	86.0
Nonresponse	25	

If so, how many?

$$N = 116$$
 Mean = 2.2 Median = 2.0
 $SE = 0.2$ Range = 1 - 10

Nonresponse = 788

16. In 2011, did you spring turkey hunt somewhere other than in Missouri?

	<u>N</u>	<u>%</u>
Yes	10	1.1
No	871	98.9
Nonresponse	23	

17. How many years have you hunted during Missouri's REGULAR SPRING turkey seasons?

$$N = 1045$$
 $Mean = 14.9$ $Median = 11.0$ $SE = 0.4$ $Range = 0 - 50$ $Nonresponse = 83$

18. How many turkeys have you killed during Missouri's REGULAR SPRING turkey seasons?

$$\begin{array}{ll} N=737 & Mean=11.9 & Median=6.0 \\ SE=0.5 & Range=0-78 \\ Nonresponse=391 & \end{array}$$

19. Certain conditions may contribute to a good spring turkey hunting experience. How much enjoyment do you receive from the following turkey hunting activities?

									<u>N</u>	<u> 10</u>
	Great		<u>Some</u>		<u>Little</u>		<u>None</u>		Opinion	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Preseason scouting Nonresponse = 74	267	25.3	423	40.1	139	13.2	126	12.0	99	9.4

	<u>Gre</u> N	eat %	So N	<u>me</u> <u>%</u>	<u>Li</u> <u>N</u>	ttle <u>%</u>	<u>No</u> <u>N</u>	one <u>%</u>	<u>Opi</u> <u>N</u>	nion <u>%</u>
Preseason calling Nonresponse = 91	110	10.6	206	19.9	156	15.0	407	39.3	158	15.2
Killing a jake (juvenile gobbler) Nonresponse = 102	176	17.2	248	24.2	153	14.9	298	29.0	151	14.7
Killing an adult gobbler Nonresponse = 89	742	71.4	77	7.4	8	0.8	101	9.7	111	10.7
Observing other wildlife Nonresponse = 62	761	71.4	239	22.4	28	2.6	12	1.1	26	2.4
Mushroom hunting Nonresponse = 64	442	41.5	260	24.4	109	10.2	182	17.1	71	6.7
Seeing spring wild- flowers Nonresponse = 74	320	30.4	356	33.8	199	18.9	119	11.3	60	5.7
Calling turkeys for another hunter Nonresponse = 103	314	30.6	163	15.9	84	8.2	270	26.3	194	18.9
Seeing turkeys Nonresponse = 63	765	71.8	212	19.9	32	3.0	27	2.5	29	2.7
Hunting with family or friends Nonresponse = 64	701	65.9	189	17.8	42	4.0	77	7.2	55	5.2
Camping Nonresponse = 102	243	23.7	160	15.6	99	9.7	342	33.3	182	17.7
Cleaning a turkey Nonresponse = 93	109	10.5	288	27.8	251	24.3	247	23.9	140	13.5
Shooting a turkey without calling it in Nonresponse = 93	160	15.5	239	23.1	218	21.1	267	25.8	151	14.6

	Gro			<u>me</u>		ttle		one a	_	nion
Hunting on public land	<u>N</u> 35	<u>%</u> 3.4	<u>N</u> 72	<u>%</u> 7.0	<u>N</u> 107	<u>%</u> 10.4	<u>N</u> 505	<u>%</u> 49.1	<u>N</u> 310	30.1
Nonresponse = 99										
Teaching someone else to hunt Nonresponse = 88	476	45.8	212	20.4	66	6.4	144	13.9	142	13.7
Hearing turkeys gobble Nonresponse = 65	814	76.6	169	15.9	30	2.8	20	1.9	30	2.8
Videotaping Nonresponse = 107	123	12.1	109	10.7	75	7.4	405	39.7	309	30.3
"Working" a gobbler Nonresponse = 71	702	66.4	154	14.6	42	4.0	75	7.1	84	8.0

20. During spring turkey season in Missouri, I:

Shoot the first legal male turkey that comes within shotgun range. It doesn't matter whether it's a jake (juvenile gobbler) or adult gobbler	<u>N</u> 277	<u>%</u> 26.0
Hunt and shoot adult gobblers primarily but will, under some circumstances, shoot a jake (juvenile gobbler)	472	44.2
Hunt and shoot only adult gobblers. I don't shoot jakes (juvenile gobblers)	318	29.8

Nonresponse = 61

PART TWO: Your Opinion About Spring Turkey Hunting in Missouri

21. Do you believe there are enough turkeys in Missouri to allow you ample opportunity to harvest a bird?

	<u>N</u>	<u>%</u>
Yes	762	69.5
No	281	25.6
No opinion	54	4.9
Nonresponse	31	

22. Missouri's REGULAR SPRING turkey season opens on the third Monday in April. Does the season open:

	<u>N</u>	<u>%</u>
Too early	37	3.4
About right	582	53.0
Too late	355	32.3
No opinion	125	11.4
Nonresponse	29	

23. Missouri's REGULAR SPRING turkey season is 21 days long. Is the season:

	<u>N</u>	<u>%</u>
Too long	119	10.8
About the right length	751	68.2
Too short	147	13.3
No opinion	85	7.7
Nonresponse	26	

24. What impact do you think the FALL turkey season has on the quality of spring turkey hunting?

The fall turkey season has no impact on the quality of spring turkey hunting	<u>N</u> 474	<u>%</u> 43.2
The fall turkey season has a negative impact on the quality of of spring turkey hunting	136	12.4
Don't know/no opinion	488	44.4

Nonresponse = 30

25. In the area you hunt, are there:

	<u>N</u>	<u>%</u>
Fewer turkeys than 5 years ago	575	52.3
More turkeys than 5 years ago	135	12.3
About the same number of turkeys as	288	26.2
5 years ago		
Don't know	101	9.2
Nonresponse	29	

If you answered fewer turkeys than 5 years ago, to what extent do you feel each of the following has contributed to the decline:

	Contri Gre	<u>ibuted</u> atl <u>y</u>		ributed erately		ributed ghtly		l Not tribute		on't low
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Bad hatches Nonresponse = 22	298	53.9	128	23.2	46	8.3	12	2.2	69	12.5
Predators Nonresponse = 19	315	56.7	130	23.4	70	12.6	6	1.1	35	6.3
Disease Nonresponse = 74	13	2.6	17	3.4	50	10.0	104	20.8	217	63.3
Bad weather during nesting Nonresponse = 25	330	60.0	125	22.7	47	8.6	7	1.3	41	7.5
Hunting Nonresponse = 64	33	6.5	56	11.0	179	35.0	180	35.2	63	12.3
Natural turkey population cycles Nonresponse = 71	37	7.3	75	14.9	101	20.0	59	11.7	232	46.0

Other (>5% of respondents):

Poaching/illegal hunting (N = 17), habitat loss/degradation (N = 12), and winter weather (N = 5)

26. The Department's approach to wild turkey management has traditionally involved establishing turkey hunting regulations that apply to the entire state (i.e., statewide season lengths and bag-limits). Would you prefer a turkey management approach that:

Involves establishing turkey hunting regulations that apply to the entire state (i.e., statewide regulations)	<u>N</u> 248	<u>%</u> 22.6
Involves establishing turkey management zones with region-specific regulations	429	39.1
Don't know/no opinion	419	38.2

Nonresponse = 32

27. The present <u>REGULAR SPRING</u> turkey season opens on a weekday (Monday), and lasts for 21 days. A hunter may take 1 bird the first week and 1 per day the second and third week with a 2-bird limit. Hunting closes at 1:00 p.m. To what extent do you support or oppose the following possible changes to the 21-day <u>REGULAR SPRING</u> turkey season:

					<u>Nei</u>	<u>ther</u>				
	Sup	ngly port	Sup	ewhat port	<u>Op</u>	ort nor oose	Opp	ose	<u>Opp</u>	ngly oose
Allowing only adult gobblers to be shot (no jakes could be shot) Nonresponse = 66	<u>N</u> 136	<u>%</u> 12.8	<u>N</u> 157	<u>%</u> 14.8	<u>N</u> 235	<u>%</u> 22.1	<u>N</u> 248	<u>%</u> 23.4	<u>N</u> 286	<u>%</u> 26.9
Reducing the season length to 2 weeks Nonresponse = 90	122	11.8	110	10.6	200	19.3	218	21.0	388	37.4
Reducing the bag- limit to 1 bird Nonresponse = 119	111	11.0	98	9.7	173	17.2	229	22.7	398	39.4
Opening the season on a weekend (Saturday) Nonresponse = 86	299	28.7	130	12.5	232	22.3	123	11.8	258	24.8
Allowing 2 birds to be shot on the same day Nonresponse = 63	233	21.9	195	18.3	187	17.6	201	18.9	249	23.4
Allowing 2 birds to be shot on successive days any time during the season Nonresponse = 74	307	29.1	264	25.1	234	22.2	115	10.9	134	12.7
Allowing all-day hunting Nonresponse = 60	361	33.8	208	19.5	156	14.6	145	13.6	198	18.5
Allowing the use of crossbows Nonresponse = 71	203	19.2	141	13.3	393	37.2	105	9.9	215	20.3

28. The present <u>FALL FIREARMS</u> turkey season runs from October 1 – 31. The present <u>FALL ARCHERY</u> turkey season runs from September 15 – January 15. A hunter may take 2 turkeys of either sex at any time during each season for a total bag-limit of 4 fall turkeys. To what extent do you support or oppose the following possible changes to the <u>FALL</u> turkey seasons:

Closing the <u>FALL</u> <u>FIREARMS</u> season Nonresponse = 53		ngly port <u>%</u> 8.5	_	ewhat port <u>%</u> 8.6	Suppo	ther ort nor oose % 17.1		ewhat bose <u>%</u> 15.4		ngly bose % 50.5
Reducing the bag-limit to 1 fall turkey (the turkey could be taken during the fall firearms OR the fall archery season) Nonresponse = 61	152	14.3	175	16.4	219	20.5	163	15.3	358	33.6
Reducing the bag-limit to 1 turkey during the <u>FALL FIREARMS</u> season Nonresponse = 77	186	17.7	196	18.7	199	18.9	130	12.4	340	32.4
Reducing the season length to 2 weeks for the <u>FALL FIREARMS</u> season Nonresponse = 68	167	15.8	173	16.3	237	22.4	135	12.7	348	32.8
Allowing the use of dogs to hunt turkeys during the <u>FALL</u> <u>FIREARMS</u> season Nonresponse = 56	24	2.2	27	2.5	129	12.0	60	5.6	832	77.6

PART THREE: Turkey Hunting Safety in Missouri

29. Have you ever been concerned about being shot by another turkey hunter?

	<u>N</u>	<u>%</u>
Yes	291	26.5
No	806	73.5
Nonresponse	31	

If so, how many times?

$$N = 191$$
 $Mean = 2.5$ $Median = 2.0$ $SE = 0.2$ $Range = 1 - 20$ $Nonresponse = 936$

30. Have you ever attended a turkey hunting seminar?

	<u>N</u>	<u>%</u>
Yes, Missouri Department of Conservation or	132	11.7
Missouri Chapter of the National Wild		
Turkey Federation sponsored seminar		
Yes, privately sponsored seminar	93	8.2
No	892	79.1
Nonresponse	11	

If no, would you attend one?

	<u>N</u>	<u>%</u>
Yes	375	48.9
No	392	51.1
Nonresponse	361	

31. Are you in favor of a special mandatory hunter education course for all turkey hunters?

	<u>N</u>	<u>%</u>
Yes	298	27.3
No	794	72.7
Nonresponse	36	

32. Should turkey hunters be required to wear an outer garment of hunter orange while turkey hunting during the firearms season?

	<u>N</u>	<u>%</u>
Yes	189	17.5
No	894	82.6
Nonresponse	45	

33. How often do you do the following while turkey hunting in the SPRING?

	Alv	<u>vays</u>		<u>ıally</u>		<u>ionally</u>		ver
Wear hunter orange at all times during the turkey hunt Nonresponse = 52	<u>N</u> 73	<u>%</u> 6.8	<u>N</u> 38	<u>%</u> 3.5	<u>N</u> 142	<u>%</u> 13.2	<u>N</u> 823	<u>%</u> 76.5
Wear hunter orange while moving through the woods Nonresponse = 45	180	16.6	127	11.7	204	18.8	572	52.8
Use a gobble call Nonresponse = 51	134	12.4	157	14.6	368	34.2	418	38.8
Leave the area if you find another hunter already calling to a gobbler that you heard and went to Nonresponse = 77	399	38.0	238	22.7	154	14.7	260	24.7
Wrap hunter orange around, or conceal a dead turkey while transporting it through the woods Nonresponse = 68	291	27.5	167	15.8	149	14.1	453	42.7
Wrap or have an item of hunter orange on a tree Nonresponse = 74	55	5.2	66	6.3	184	17.5	749	71.1
Use a hen decoy Nonresponse = 51	300	27.9	337	31.3	246	22.8	194	18.0
Use a jake decoy Nonresponse = 60	154	14.4	227	21.3	289	27.1	398	37.3
Use a full strut gobbler decoy Nonresponse = 64	80	7.5	87	8.2	201	18.9	696	65.4

PART FOUR: Your Background

34. How many years have you hunted? (all game, not just turkeys)

$$\begin{array}{ll} N=1096 & Mean=34.3 & Median=38.5 \\ SE=0.6 & Range=1-75 \\ Nonresponse=32 & \end{array}$$

35. Which best describes where you grew up as a child?

	<u>N</u>	<u>%</u>
In the country or a rural area	698	63.3
Small town	190	17.2
A suburban area close to a large city	148	13.4
An urban area in the city	67	6.1
Nonresponse	25	

36. Which best describes where you live now?

	<u>N</u>	<u>%</u>
In the country or a rural area	812	73.3
Small town	118	10.7
A suburban area close to a large city	145	13.1
An urban area in the city	33	3.0
Nonresponse	20	

37. Which of the following categories best describes your total household income before taxes in 2010?

	<u>N</u>	<u>%</u>
Less than \$15,000	66	6.9
\$15,000 to \$24,999	92	9.6
\$25,000 to \$34,999	106	11.1
\$35,000 to \$44,999	108	11.3
\$45,000 to \$54,999	105	11.0
\$55,000 to \$74,999	143	15.0
\$75,000 to \$99,000	141	14.8
\$100,000 or more	195	20.4
Nonresponse	172	

38. You are:

	<u>N</u>	<u>%</u>
Male	988	88.8
Female	125	11.2
Nonresponse	15	

39. Your age:

$$N = 1110$$
 $Mean = 50.4$ $Median = 54.0$ $SE = 0.6$ $Range = 6 - 93$ $Nonrespons = 18$

40. County of residence:

	<u>N</u>	<u>%</u>
County of residence in Missouri	1067	100.0
County of residence not in Missouri	0	n/a
Nonresponse	61	

APPENDIX II

Analysis of 2,778 returned questionnaires from a survey of randomly-selected hunters (resident and nonresident) who purchased a spring turkey hunting permit to hunt in Missouri during the 2011 spring turkey hunting season.

PART ONE: Your Missouri Turkey Hunting Experience

1.	Did vou hi	ant turkevs	during the	2011	REGULAR	SPRING	turkev	season?

 Yes
 %
 No
 %
 Nonresponse

 2632
 95.3
 129
 4.7
 10

If so, how many turkeys did you kill during the 2011 REGULAR SPRING turkey season?

<u>0</u> <u>%</u> <u>1</u> <u>%</u> <u>2</u> <u>%</u> <u>Nonresponse</u> 1575 60.3 760 29.1 275 10.5 161

2. Did you hunt turkeys during the 2010 FALL FIREARMS turkey season?

<u>Yes</u> <u>%</u> <u>No</u> <u>%</u> <u>Nonresponse</u> 699 25.6 2033 74.4 39

If so, how many turkeys did you kill during the 2010 FALL FIREARMS turkey season?

 0
 %
 1
 %
 2
 %
 Nonresponse

 481
 70.2
 147
 21.5
 57
 8.3
 2086

3. Did you hunt turkeys during the 2010 FALL ARCHERY turkey season?

<u>Yes</u> <u>%</u> <u>No</u> <u>%</u> <u>Nonresponse</u> 862 31.5 1878 68.5 31

If yes, how many turkeys did you kill during the 2010 FALL ARCHERY turkey season?

 0
 %
 1
 %
 2
 %
 Nonresponse

 783
 91.8
 56
 6.6
 14
 1.6
 1918

IF YOU DID NOT HUNT DURING THE 2011 SPRING TURKEY SEASON, SKIP TO QUESTION 17

4. How many days did you hunt during the 2011 REGULAR SPRING turkey season?

<u>Number</u>			<u>Number</u>			<u>Number</u>			
<u>Days</u>	<u>N</u>	<u>%</u>	<u>Days</u>	<u>N</u>	<u>%</u>	<u>Days</u>	<u>N</u>	<u>%</u>	
1	162	6.3	8	134	5.2	15	38	1.5	
2	358	14.0	9	50	2.0	16	15	0.6	
3	361	14.1	10	133	5.2	17	5	0.2	
4	400	15.6	11	24	0.9	18	22	0.9	
5	314	12.3	12	49	1.9	19	10	0.4	
6	275	10.8	13	6	0.2	20	8	0.3	
7	152	5.9	14	31	1.2	21	12	0.5	
I = 2559	Mear	n = 5.4	SE = 0.	1	Median	= 4.0	Nonres	ponse =	73

5. How many days of the 2011 REGULAR SPRING turkey season did you hunt:

	Mean	<u>Median</u>	<u>N</u>	<u>Nonresponse</u>
Only on private land	5.0	4.0	2134	498
Only on public land	4.5	3.0	486	2146
On both private and public land	6.3	5.0	276	2356

6. How difficult was it for you to locate a place to hunt during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Very difficult	91	3.6
Difficult	277	10.8
Not too difficult	746	29.2
No problem	1442	56.4
Nonresponse	76	

7. In what county did you hunt MOST during the 2011 REGULAR SPRING turkey season?

111 counties N = 2522 Unknown = 9 Nonresponse = 115

8. How far is it (one-way) from your residence to the area you hunted MOST during the 2011 REGULAR SPRING turkey season?

N = 2467 Mean = 73.8 miles Median = 20.0 miles SE = 3.3 Range = 0 - 2800 miles Nonresponse = 165 9. How many hunters, other than those in your hunting party, did you encounter (i.e., see or hear) while turkey hunting during the 2011 REGULAR SPRING turkey season?

$$N = 1216$$
 $Mean = 3.7$ $Median = 2.0$ $SE = 0.1$ $Range = 0 - 50$

Nonresponse = 1416

10. Did you pay someone for the right to hunt turkeys on their land during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Yes	200	7.8
No	2363	92.2
Nonresponse	69	

11. How would you rate your 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Excellent	359	14.1
Good	622	24.3
Fair	767	30.0
Poor	781	30.6
No opinion	26	1.0
Nonresponse	77	

12. How much of a problem did you have with the following during the 2011 REGULAR SPRING turkey season?

			Some	what						
	<u>G</u> r	<u>eat</u>	<u>of</u>	<u>a</u>	Very	<u>Little</u>				
	Prol	<u>blem</u>	<u>Prob</u>	<u>olem</u>	<u>Prol</u>	<u>olem</u>	No Pro	<u>oblem</u>	Don't	Know
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Interference by other	73	2.9	291	11.4	384	15.1	1765	69.4	30	1.2
hunters										
Nonresponse $= 89$										
Trespassing hunters	57	2.3	178	7.2	178	7.2	1919	77.9	130	5.3
Nonresponse $= 170$										

13. We would like an estimate of your turkey hunting expenses for the 2011 REGULAR SPRING turkey season.

	Total 2011 Spring Turkey Hunting Expenses					
	<u>Mean</u>	<u>SE</u>	Median	<u>Minimum</u>	Maximum	
Special hunting clothes Nonresponse = 147	28.71	1.14	0	0	600.00	

	Total 2011 Spring Turkey Hunting Expenses				
	Mean	<u>SE</u>	Median	<u>Minimum</u>	Maximum
Turkey calls Nonresponse = 147	15.23	0.50	6.00	0	300.00
Ammunition Nonresponse = 148	12.33	0.28	10.00	0	130.00
New firearms Nonresponse = 147	39.50	3.45	0	0	2000.00
Transportation (gas, oil, repairs) Nonresponse = 147	89.92	2.62	50.00	0	1500.00
Lodging (motel, cabin, campground) Nonresponse = 147	11.39	1.17	0	0	1000.00
Food and drink (restaurants, groceries, snacks) Nonresponse = 147	39.76	1.36	15.00	0	1000.00
Rented/leased hunting land Nonresponse = 149	48.96	5.49	0	0	5000.00
Taxidermy Nonresponse = 147	5.56	0.99	0	0	900.00
Other related items such as camera, film, knives, etc. Nonresponse = 148	18.64	3.07	0	0	5500.00
TOTAL	306.83	10.62	150.00	0	9020.00

14. Did you shoot at and hit a turkey that you were unable to retrieve during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Yes	150	5.9
No	2410	94.1
Nonresponse	72	

If so, how many?

$$N = 147$$
 $Mean = 1.1$ $Median = 1.0$ $SE = 0.1$ $Range = 1 - 3$

Nonresponse = 2485

15. Did you flush any hens off nests during the 2011 REGULAR SPRING turkey season?

	<u>N</u>	<u>%</u>
Yes	412	16.1
No	2141	83.9
Nonresponse	79	

If so, how many?

$$N = 389$$
 Mean = 2.3 Median = 2.0
 $SE = 0.1$ Range = 1 - 20

Nonresponse = 2243

16. In 2011, did you spring turkey hunt somewhere other than in Missouri?

	<u>N</u>	<u>%</u>
Yes	258	10.1
No	2300	89.9
Nonresponse	74	

17. How many years have you hunted during Missouri's REGULAR SPRING turkey seasons?

$$N = 2641$$
 Mean = 14.9 Median = 12.0
 $SE = 0.2$ Range = 0 - 51

Nonresponse = 130

18. How many turkeys have you killed during Missouri's REGULAR SPRING turkey seasons?

$$N = 2040$$
 $Mean = 13.0$ $Median = 8.0$ $SE = 0.3$ $Range = 0 - 83$ $Nonresponse = 731$

19. Certain conditions may contribute to a good spring turkey hunting experience. How much enjoyment do you receive from the following turkey hunting activities?

									<u>N</u>	<u> </u>
	<u>Great</u>		<u>Some</u>		<u>Little</u>		<u>None</u>		Opinion	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Preseason scouting Nonresponse = 117	832	31.4	1028	38.7	294	11.1	267	10.1	233	8.8

	<u>Gre</u> N	eat %	<u>So</u> <u>N</u>	<u>me</u> <u>%</u>	<u>Li</u> <u>N</u>	ttle <u>%</u>	<u>No</u> <u>N</u>	one <u>%</u>	<u>Opi</u> <u>N</u>	nion %
Preseason calling Nonresponse = 143	361	13.7	508	19.3	382	14.5	1031	39.2	346	13.2
Killing a jake (juvenile gobbler) Nonresponse = 168	434	16.7	620	23.8	442	17.0	791	30.4	316	12.1
Killing an adult gobbler Nonresponse = 130	2109	79.9	121	4.6	13	0.5	197	7.5	201	7.6
Observing other wildlife Nonresponse = 96	2007	75.0	547	20.5	69	2.6	23	0.9	29	1.1
Mushroom hunting Nonresponse = 105	1107	41.5	671	25.2	250	9.4	461	17.3	177	6.6
Seeing spring wild- flowers Nonresponse = 128	664	25.1	931	35.2	561	21.2	357	13.5	130	4.9
Calling turkeys for another hunter Nonresponse = 129	1241	47.0	518	19.6	164	6.2	426	16.1	293	11.1
Seeing turkeys Nonresponse = 95	2132	79.7	403	15.1	74	2.8	33	1.2	34	1.3
Hunting with family or friends Nonresponse = 95	2219	82.9	278	10.4	44	1.6	94	3.5	41	1.5
Camping Nonresponse = 151	807	30.8	483	18.4	267	10.2	707	27.0	356	13.6
Cleaning a turkey Nonresponse = 138	422	16.0	827	31.4	659	25.0	491	18.7	234	8.9
Shooting a turkey without calling it in Nonresponse = 134	457	17.3	695	26.4	554	21.0	626	23.7	305	11.6

	Gre			<u>me</u>		ttle		one or	_	nion
Hunting on public land Nonresponse = 136	<u>N</u> 300	<u>%</u> 11.4	<u>N</u> 558	<u>%</u> 21.2	<u>N</u> 455	<u>%</u> 17.3	<u>N</u> 814	<u>%</u> 30.9	<u>N</u> 508	<u>%</u> 19.3
Teaching someone else to hunt Nonresponse = 113	1649	62.0	458	17.2	86	3.2	202	7.6	263	9.9
Hearing turkeys gobble Nonresponse = 93	2315	86.5	268	10.0	41	1.5	20	0.8	34	1.3
Videotaping Nonresponse = 167	468	18.0	384	14.8	264	10.1	802	30.8	686	26.3
"Working" a gobbler Nonresponse = 87	2178	81.2	259	9.7	68	2.5	82	3.1	97	3.6

20. During spring turkey season in Missouri, I:

Shoot the first legal male turkey that comes within shotgun range. It doesn't matter whether it's a jake (juvenile gobbler) or adult gobbler	<u>N</u> 528	<u>%</u> 19.6
Hunt and shoot adult gobblers primarily but will, under some circumstances, shoot a jake (juvenile gobbler)	1364	50.7
Hunt and shoot only adult gobblers. I don't shoot jakes (juvenile gobblers)	797	29.6

Nonresponse = 82

PART TWO: Your Opinion About Spring Turkey Hunting in Missouri

21. Do you believe there are enough turkeys in Missouri to allow you ample opportunity to harvest a bird?

	<u>N</u>	<u>%</u>
Yes	2003	73.3
No	619	22.7
No opinion	109	4.0
Nonresponse	40	

22. Missouri's REGULAR SPRING turkey season opens on the third Monday in April. Does the season open:

	<u>N</u>	<u>%</u>
Too early	66	2.4
About right	1432	52.7
Too late	1013	37.3
No opinion	206	7.6
Nonresponse	54	

23. Missouri's REGULAR SPRING turkey season is 21 days long. Is the season:

	<u>N</u>	<u>%</u>
Too long	210	7.7
About the right length	1836	67.2
Too short	570	20.9
No opinion	116	4.2
Nonresponse	38	

24. What impact do you think the FALL turkey season has on the quality of spring turkey hunting?

The fall turkey season has no impact on the quality of spring turkey hunting	<u>N</u> 1219	<u>%</u> 44.7
The fall turkey season has a negative impact on the quality of of spring turkey hunting	360	13.2
Don't know/no opinion	1147	42.1

Nonresponse = 45

25. In the area you hunt, are there:

	<u>N</u>	<u>%</u>
Fewer turkeys than 5 years ago	1390	50.8
More turkeys than 5 years ago	263	9.6
About the same number of turkeys as	669	24.5
5 years ago		
Don't know	413	15.1
Nonresponse	36	

If you answered fewer turkeys than 5 years ago, to what extent do you feel each of the following has contributed to the decline:

	<u>Contri</u>	<u>buted</u>	Contr	<u>ibuted</u>	Contr	<u>ibuted</u>	Did	l Not	<u>Dc</u>	<u>n't</u>
	Gre	<u>atly</u>	Mode	eratel <u>y</u>	<u>Slig</u>	<u>thtly</u>	Cont	<u>ribute</u>	<u>Kn</u>	<u>iow</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Bad hatches Nonresponse = 44	782	58.1	318	23.6	112	8.3	12	0.9	122	9.1
Predators Nonresponse = 53	682	51.0	375	28.1	180	13.5	29	2.2	71	5.3
Disease Nonresponse = 168	36	3.0	65	5.3	186	15.2	249	20.4	686	56.1
Bad weather during nesting Nonresponse = 62	813	61.2	290	21.8	128	9.6	15	1.1	82	6.2
Hunting Nonresponse = 134	87	6.9	181	14.4	428	34.1	444	35.4	116	9.2
Natural turkey population cycles Nonresponse = 138	75	6.0	227	18.1	292	23.3	127	10.1	531	42.4

Other (>5% of respondents):

Poaching/illegal hunting (N = 62) and habitat loss/degradation (N = 36)

26. The Department's approach to wild turkey management has traditionally involved establishing turkey hunting regulations that apply to the entire state (i.e., statewide season lengths and bag-limits). Would you prefer a turkey management approach that:

Involves establishing turkey hunting regulations that apply to the entire state (i.e., statewide regulations)	<u>N</u> 817	<u>%</u> 30.1
Involves establishing turkey management zones with region-specific regulations	1067	39.2
Don't know/no opinion	835	30.7

Nonresponse = 52

27. The present <u>REGULAR SPRING</u> turkey season opens on a weekday (Monday), and lasts for 21 days. A hunter may take 1 bird the first week and 1 per day the second and third week with a 2-bird limit. Hunting closes at 1:00 p.m. To what extent do you support or oppose the following possible changes to the 21-day <u>REGULAR SPRING</u> turkey season:

					<u>Nei</u>	<u>ther</u>				
	<u>Sup</u>	ngly port	Sup	ewhat port	<u>Opr</u>	ort nor oose	Opp	ewhat oose	<u>Opp</u>	ngly oose
Allowing only adult gobblers to be shot (no jakes could be shot) Nonresponse = 100	<u>N</u> 395	<u>%</u> 14.8	<u>N</u> 423	<u>%</u> 15.8	<u>N</u> 562	<u>%</u> 21.0	<u>N</u> 549	<u>%</u> 20.6	<u>N</u> 742	<u>%</u> 27.8
Reducing the season length to 2 weeks Nonresponse = 140	227	8.6	227	8.6	413	15.7	566	21.5	1198	45.5
Reducing the bag- limit to 1 bird Nonresponse = 196	189	7.3	236	9.2	353	13.7	539	20.9	1258	48.9
Opening the season on a weekend (Saturday) Nonresponse = 130	710	26.9	286	10.8	499	18.9	352	13.3	794	30.1
Allowing 2 birds to be shot on the same day Nonresponse = 84	767	28.5	539	20.1	409	15.2	380	14.1	592	22.0
Allowing 2 birds to be shot on successive days any time during the season Nonresponse = 96	1027	38.4	699	26.1	419	15.7	240	9.0	290	10.8
Allowing all-day hunting Nonresponse = 78	1079	40.1	486	18.1	345	12.8	292	10.8	491	18.2
Allowing the use of crossbows Nonresponse = 91	460	17.2	364	13.6	1087	40.6	210	7.8	559	20.9

28. The present <u>FALL FIREARMS</u> turkey season runs from October 1 – 31. The present <u>FALL ARCHERY</u> turkey season runs from September 15 – January 15. A hunter may take 2 turkeys of either sex at any time during each season for a total bag-limit of 4 fall turkeys. To what extent do you support or oppose the following possible changes to the <u>FALL</u> turkey seasons:

Closing the <u>FALL</u> <u>FIREARMS</u> season Nonresponse = 100		ngly port <u>%</u> 11.0		ewhat port <u>%</u> 8.7	Suppo	ther ort nor oose	<u>Some</u> <u>Opr</u> <u>N</u> 368	ewhat bose <u>%</u> 13.8	<u>Stro</u> <u>Opr</u> <u>N</u> 1143	
Reducing the bag-limit to 1 fall turkey (the turkey could be taken during the fall firearms OR the fall archery season) Nonresponse = 116	453	17.1	439	16.5	614	23.1	370	13.9	779	29.3
Reducing the bag-limit to 1 turkey during the <u>FALL FIREARMS</u> season Nonresponse = 145	537	20.5	521	19.8	629	24.0	288	11.0	651	24.8
Reducing the season length to 2 weeks for the <u>FALL FIREARMS</u> season Nonresponse = 132	500	19.0	429	16.3	723	27.4	315	11.9	672	25.5
Allowing the use of dogs to hunt turkeys during the <u>FALL</u> <u>FIREARMS</u> season Nonresponse = 102	81	3.0	90	3.4	439	16.5	158	5.9	1901	71.2

PART THREE: Turkey Hunting Safety in Missouri

29. Have you ever been concerned about being shot by another turkey hunter?

	<u>N</u>	<u>%</u>
Yes	942	34.7
No	1776	65.3
Nonresponse	53	

If so, how many times?

$$N = 616$$
 $Mean = 3.2$ $Median = 2.0$ $SE = 0.3$ $Range = 1 - 100$ $Nonresponse = 2155$

30. Have you ever attended a turkey hunting seminar?

	<u>N</u>	<u>%</u>
Yes, Missouri Department of Conservation or	409	14.6
Missouri Chapter of the National Wild		
Turkey Federation sponsored seminar		
Yes, privately sponsored seminar	376	13.4
No	2011	71.9
Nonresponse	52	

If no, would you attend one?

	<u>N</u>	<u>%</u>
Yes	1133	63.5
No	652	36.5
Nonresponse	986	

31. Are you in favor of a special mandatory hunter education course for all turkey hunters?

	<u>N</u>	<u>%</u>
Yes	873	32.2
No	1841	67.8
Nonresponse	57	

32. Should turkey hunters be required to wear an outer garment of hunter orange while turkey hunting during the firearms season?

	<u>N</u>	<u>%</u>
Yes	345	12.7
No	2362	87.3
Nonresponse	64	

33. How often do you do the following while turkey hunting in the SPRING?

	Alw	<u>ays</u>		<u>ıally</u>		<u>ionally</u>	Ne	
Wear hunter orange at all times during the turkey hunt Nonresponse = 74	<u>N</u> 101	<u>%</u> 3.7	<u>N</u> 76	<u>%</u> 2.8	<u>N</u> 296	<u>%</u> 11.0	<u>N</u> 2224	<u>%</u> 82.5
Wear hunter orange while moving through the woods Nonresponse = 63	355	13.1	310	11.5	605	22.3	1438	53.1
Use a gobble call Nonresponse = 84	300	11.2	337	12.5	1076	40.0	974	36.3
Leave the area if you find another hunter already calling to a gobbler that you heard and went to Nonresponse = 84	1378	51.3	675	25.1	294	10.9	340	12.7
Wrap hunter orange around, or conceal a dead turkey while transporting it through the woods Nonresponse = 74	933	34.6	477	17.7	372	13.8	915	33.9
Wrap or have an item of hunter orange on a tree Nonresponse = 85	127	4.7	200	7.5	412	15.3	1947	72.5
Use a hen decoy Nonresponse = 64	968	35.8	880	32.5	624	23.1	235	8.7
Use a jake decoy Nonresponse = 86	529	19.7	660	24.6	820	30.5	676	25.2
Use a full strut gobbler decoy Nonresponse = 78	221	8.2	325	12.1	703	26.1	1444	53.6

PART FOUR: Your Background

34. How many years have you hunted? (all game, not just turkeys)

$$N = 2739 \qquad \qquad \text{Mean} = 30.1 \qquad \qquad \text{Median} = 30.0$$

$$SE = 0.3 \qquad \qquad \text{Range} = 1 - 75$$

$$Nonresponse = 32$$

35. Which best describes where you grew up as a child?

	<u>N</u>	<u>%</u>
In the country or a rural area	1402	51.7
Small town	674	24.9
A suburban area close to a large city	485	17.9
An urban area in the city	149	5.5
Nonresponse	61	

36. Which best describes where you live now?

	<u>N</u>	<u>%</u>
In the country or a rural area	1295	47.3
Small town	689	25.2
A suburban area close to a large city	579	21.1
An urban area in the city	177	6.5
Nonresponse	31	

37. Which of the following categories best describes your total household income before taxes in 2010?

	<u>N</u>	<u>%</u>
Less than \$15,000	110	4.4
\$15,000 to \$24,999	153	6.1
\$25,000 to \$34,999	234	9.4
\$35,000 to \$44,999	274	11.0
\$45,000 to \$54,999	294	11.8
\$55,000 to \$74,999	470	18.9
\$75,000 to \$99,000	441	17.7
\$100,000 or more	518	20.8
Nonresponse	277	

38. You are:

	<u>N</u>	<u>%</u>
Male	2632	95.5
Female	123	4.5
Nonresponse	16	

39. Your age:

$$N = 2754$$
 $Mean = 43.9$ $Median = 45.0$ $SE = 0.3$ $Range = 4 - 94$ $Nonresponse = 17$

40. County of residence:

	<u>N</u>	<u>%</u>
County of residence in Missouri	2514	91.5
County of residence not in Missouri	235	8.5
Nonresponse	22	